

THE COMMERCIAL REVIEW.

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AUGUST, 1848.

No. 2.

Art. I.—CENTRAL AMERICA.*

—— “Declined to dust!
But where they dwelt, the vast and sumptuous pile
Bespeaks the pageant of the splendid trust.
Their sceptre broken and their sword in rust,
Have yielded to the stranger: Empty halls

To meditate amongst decay——
—— There to track
Fallen states and buried greatness; o’er a land
Which *was*! ——”

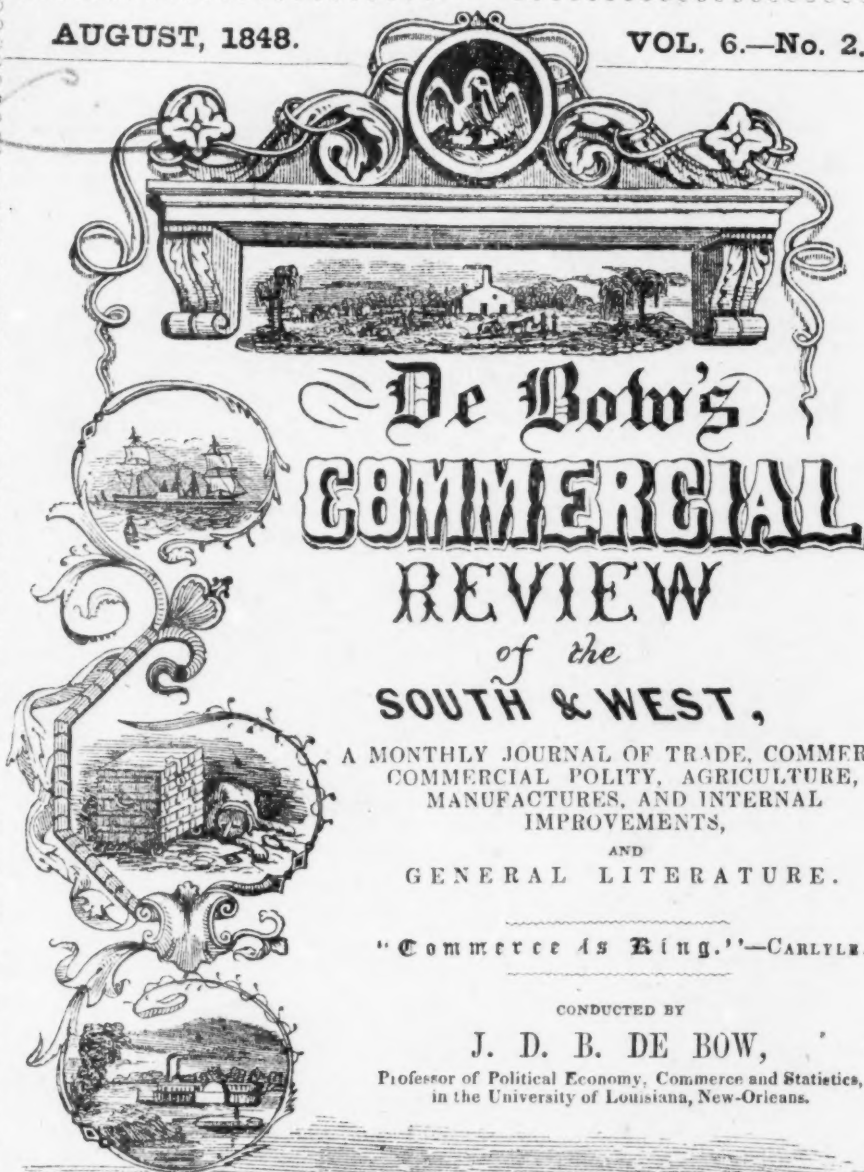
IN the antiquities of our own country, how much is there to excite the deepest interest and the most profound speculation. But yet, how prone are we to wander away from the things which are familiar, discarding them as worthless, to fall into ecstasies and wonder in regard to those afar off, and around which the “enchantment” of “distance” hangs alluringly. If we can but wander to Palmyra, or by the Nile, there is at once an acme in the enthusiasm and frenzy of our natures. The noble dead, as of a hundred generations, seem crowding around us; they speak in marble and in monument; in hieroglyphic and in ruin. There comes an inspiration with that language. All feel it.

Alas! the *old* world, with its hallowed associations and memories, have been admired and mourned, and sung by genius, and poetry, and romance, for generations and generations. But where is the pen and the pencil that have seized upon the marvels of the *new* world, explored them eagerly, and traced in living colors the memorials of its myriad and *unknown* dead? A gloomy curtain hangs over all the past. We see nothing, and we know nothing behind. We seek in

* This constitutes No. 5 of our articles upon AMERICA, viz., *Progress of American Commerce*, vol. ii. COMMERCIAL REVIEW; the *Great West*, vol. iv.; the *West India Islands*, vol. v.; *South American States*, vol. vi. No. 1. In these will be found a mass of the latest information on every important point. We shall follow with *British America*, *Russian America*, and *Mexico*. In the preparation of these papers, we acknowledge the great assistance derived from the ponderous and invaluable collection of materials made by the indefatigable Mr. McGregor, of London. His works deserve a place in every library.

AUGUST, 1848.

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MANUFACTURES, AND INTERNAL
IMPROVEMENTS,
AND
GENERAL LITERATURE.

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CONDUCTED BY

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vain to remove that curtain. But fancy, and conjecture, and reason will not be still. There are monuments which betoken an antiquity, and a far back antiquity, of which all other evidence is lost. We are pointed to men, and heroes, and nations, gone forever from the spots we inhabit! They were not as we, yet were they not less, perhaps, in many exalted characteristics. A giant race of animals were contemporary, of which there remained to us but the fossil bones. Who were these men—whence did they emanate—what is their antiquity—how their civilization, arts and progress—in what manner has the sun of empire and existence settled upon them forever? What lessons might this antiquity teach, but what know we of it all? Yet we wander away to Greece and to Rome to hunt after dead men and their works! Dead men and nations, and their works, are scattered every where around us, unheeded, we had almost said, contemned.

With the map of CENTRAL AMERICA extended upon the table, for it is to this particular field we are to confine ourselves now, it would be impossible not to fall into something like the train of thought with which our paper opens. We have only to regret that space and time prevent its indulgence to the extent our humour inclines. The reader will run far beyond the meagre limits of our sketch.

Central America, or Guatemala, extends from about 8 to 18° north latitude, and 82 to 94 west longitude. The area, including the Mesquito territory, previously described by us,* is 120,000 square miles. Mexico, Honduras, New-Granada and the oceans bound it.

We shall sketch the antiquities, as they are called, of this region, and then descending to the present times, describe the appearance of the country, the soil, climate, population and resources.

Central America has been explored by M. Dupaix, Del Rio, M. Waldeck, and our own countryman, Mr. Stephens, whose lately published volumes upon the subject have been received with extraordinary interest throughout the world, and have been universally read and admired. None of these travellers, however, claim to have more than penetrated the crust, whilst the deep bowels remain as for ages undisturbed. Whole regions have been but slightly and imperfectly scanned. What new wonders they may reveal, may be conjectured from past results. Is it improbable the key will yet be found? The pyramids which were dumb to Homer and Herodotus—to the men who gazed stupidly upon them for ages, have been taught to speak a language at last a child might understand. The Rosetta stone may exist here too.

In reference to this point, Mr. Stephens relates an extraordinary statement, made to him by a certain *padre*, about the truth of which he does not seem in any degree faithless. The reader may receive it with as much allowance as he pleases.

“The *padre* asserted, that four days on the road to Mexico, on the other side of the great Sierra, was a living city, large and populous, occupied by Indians, precisely in the same state as before the discovery of America. He had heard of it many years before at the

* See Commercial Review, vol. v. Art. *West India Islands, &c.*

village of Chajul, and was told by the villagers that from the topmost ridge of the Sierra, the city was distinctly visible. He was then young, and with much labor climbed to the naked summit of the Sierra, from which, at the height of ten or twelve thousand feet, he looked over an immense plain, extending to Yucatan and the Gulf of Mexico, and saw, at a great distance, a large city spread over a great space, and with turrets white and glittering in the sun. The traditional accounts of the Indians at Chajul, is that no white man has ever reached this city; that the inhabitants speak the Maya language; are aware that a race of strangers have conquered the whole country around, and murder any white man who attempts to enter their territory. They have no coin or circulating medium; no horses, cattle, mules, or domestic animals, except fowls, and the cocks they keep under ground to prevent their crowing being heard.

"If he is right, a place is left where Indians and an Indian city exist, as Cortez and Alvarado found them. There are living men who can solve the mystery that hangs over the ruined cities of America, perhaps who can go to Cospan and read the inscriptions on its monuments. No subject more attractive and exciting presents itself to my mind, and the deep impression of that night will never be effaced.

"Can it be true—being now in my sober senses. I do verily believe there is much ground to suppose that what the padre told us is authentic. That the region referred to does not acknowledge the government of Guatemala—has never been explored—and that no white man ever pretends to enter it, I am satisfied. From other sources we heard that from that Sierra a large ruined city was visible; and we were told by another person, who had climbed to the top of the Sierra, but on account of the dense cloud resting upon it, had been unable to see anything. At all events, the belief at the village of Chajul is general, and a curiosity is roused that burns to be satisfied."

The ruins of Central America have been thus distributed:

1. *Ruins of Copan.*—These are in a fertile valley, and are on the banks of a small stream called the Copan, tributary to the Motagua. They extend along the river two miles. The temple here discovered is over six hundred feet fronting the river, and from sixty to ninety feet high. It is made of hewn stones, three to six feet long. Ranges of steps rise upon the sides.

"Of the moral effect of the monuments themselves," says Mr. Stephens, "standing as they do in the depths of a tropical forest, silent and solemn, strange in design, excellent in sculpture, rich in ornament, different from the works of any other people—their uses and purposes, their whole history so entirely unknown, with hieroglyphics explaining all, but perfectly unintelligible, I shall not pretend to convey an idea. The tone which pervades the ruins is that of deep solemnity. An imaginative mind might be infected with superstitious feelings. From constantly calling them by that name in our intercourse with the Indians, we regarded these solemn memorials as idols—objects of adoration and ceremonial worship."

2. *Ruins of Quirigua.*—These are a pyramidal structure, similar

to the temple, but much smaller, and a colossal head six feet in diameter. Other monuments exist, even larger than those of Copan. Mr. Stephens, quoted by Mr. McGregor, for we have not his work before us, and have not read it for several years, says :

"Of one thing there is no doubt, a large city once stood there ; and except for a notice taken from Mr. C.'s notes, and inserted by the Senors Payes in a Guatemala paper after the visit, which found its way to this country and Europe, no account of its existence has ever before been published. For centuries it has lain as completely buried as if covered with the lava of Vesuvius. Every traveller from Yzabal to Guatemala has passed within three hours of it—we ourselves had done the same—and yet there it lay, like the rock-built city of Edom, unvisited, unsought, and utterly unknown."

3. Ruins of Palenque.—These, it is said, were first discovered by a party of Spaniards, as early as 1750 ; but the fact was not known in Europe until the publication of Dupaix's work.

"The Indians and people of Palenque say, that they cover a space of sixty miles. In a series of well written articles in our own country, they have been set down as ten times larger than New-York ; and lately I have seen an article in some of the newspapers referring to our expedition, which represents the city discovered by us as having been three times as large as London !

"The Indians and inhabitants of Palenque really know nothing of the ruins personally, and the other accounts do not rest upon any sufficient foundation. The whole country, for miles around, is covered with a dense forest of gigantic trees, with a growth of bush and underwood unknown in the wooded deserts of our own country, and impenetrable in any direction, except by cutting a way by a *machete*. What lies buried in the forest, it is impossible to say, of my own knowledge ; without a guide, we might have gone within a hundred feet of all the buildings without discovering one of them. Captain Del Rio, the first explorer with men and means at command, states in his report, that in the execution of his commission, he cut down and burnt all the woods. He does not say how far, but judging from the breaches and excavations made in the interior of the buildings, probably for miles around. Captain Dupaix, acting under a royal commission, and with all the resources such a commission would give, did not discover any more buildings than those mentioned by Del Rio, and we saw only the same ; but having the benefit of them as guides, at least of Del Rio, for at that time we had not seen Dupaix's work, we of course saw things which escaped their observation, just as those who come after us will see what escaped ours.

"The palace in which Mr. Stephens resided," he says, "stands on an artificial elevation of an oblong form, 40 feet high, 310 feet front and rear, and 260 feet on each side. The elevation was formerly faced with stone, which has been thrown down by the growth of trees ; and its form is hardly distinguishable.

"The building stands with its face to the east, and measures 228 feet front by 180 deep. Its height is not more than 25 feet, and all around it had a broad projecting cornice of stone. The front contains 14 doorways, about nine feet wide each, and the intervening piers are between six and seven feet wide. On the left, in approaching the palace, eight of the piers have fallen down, as also has the corner on the right, and the terrace underneath is crumbled with the ruins. But six piers remain entire, and the rest of the front is open.

"Another portion was enclosed by a richly ornamented border, about ten feet wide and six high, of which only a part now remains. The principal personage stands in an upright position, and in profile, exhibiting an extraordinary facial angle of about forty-five degrees. The upper part of the head seemed to have been compressed and lengthened, perhaps by the same process employed upon the heads of the Choctaw and Flat-head Indians of our own country. The head represents a different species from any now existing in that region of country, and supposing the statues to be images of living personages, or the creations of artists according to their ideas of perfect figures, they indicate a race of people now lost and unknown. The head-dress is evidently a plume of feathers ; over the shoulders is a short covering, decorated with studs and a breast-plate ; part of the or

nement of the girdle is broken; the tunic is probably a leopard's skin; and the whole dress, no doubt, indicates the costume of this unknown people. He holds in his hand a staff or sceptre, and opposite his hands are the marks of three hieroglyphics, which have decayed or broken off. At his feet are two naked figures seated cross-legged, and apparently suppliants. The hieroglyphics doubtless tell its story. The stucco is of admirable consistency, and hard as stone. It was painted, and in different places about it we discovered the remains of red, blue, yellow, black, and white.

"The piers, which are still standing, contained other figures of the same general character, but which, unfortunately, are more mutilated, and from the declivity of the terrace, it was difficult to set up the camera lucida in such a position as to draw them.

"The piers which have fallen are no doubt enriched with the same ornaments. Each one has some specific meaning; and the whole, probably, presented some allegory or history; and when entire and painted, the effect in ascending the terrace must have been imposing and beautiful.

"The whole court-yard was overgrown with trees, and it was encumbered with ruins several feet high, so that the exact architectural arrangements could not be seen.

"About a mile and a half from the village, we came to a range of elevations extending to a great distance, and connected by a ditch, which had evidently formed the line of fortifications for the ruined city. They consisted of the remains of stone buildings, probably towers, the stones well cut and laid together, and the mass of rubbish around abounded in flint arrow-heads. Within this line was an elevation which grew more imposing as we approached—square, with terraces, and having in the centre a tower, in all 120 feet high. We ascended by steps to three ranges of terraces, and on the top entered an area, enclosed by stone walls and covered with hard cement, in many places still perfect. Thence we ascended by stone steps to the top of the tower, the whole of which was formerly covered with stucco, and stood as a fortress at the entrance of the great city of Utalan, the Capital of the Quichi Indians.

"This was the first appearance of strangers in Utalan, the capital of the great Indian kingdom, the ruins of which were now under our eyes, once the most populous and opulent city out of the whole kingdom of Guatemala."

In regard to the antiquity of the ruins everywhere so profusely scattered throughout Central America, speculations have multiplied, as is most natural. Different views have been held and abandoned. The subject is as yet involved in doubt and incertitude, though so far as the researches of Mr. Stephens extend, they seem to have satisfied his mind, that the vast cities, and towns, and monuments discovered, were the workmanship and habitations of the people conquered by the Spaniards, and not of any former and obliterated nation. We give his views upon this point:

"My opinion on this question has been fully and freely expressed, that they are not the works of people passed away and whose history is lost, but of the same race who inhabited the country at the time of the Spanish conquest, or of some not very distant progenitors. Some were probably in ruins; but, in general, I believe that they were occupied by the Indians at the time of the Spanish invasion. The grounds of this belief are interspersed throughout these pages; they are interwoven with so many facts and circumstances, that I do not recapitulate them; and, in conclusion, I shall only refer briefly to those arguments which I consider the strongest that are urged against this belief.

"The first is the entire absence of all traditions. But, I may ask, is this not accounted for by the unparalleled circumstances

which attended the conquest and subjugation of Spanish America? Every captain or discoverer, on first planting the royal standard on the shores of a new country, made proclamation according to a form drawn up by the most eminent divines and lawyers in Spain, the most extraordinary that ever appeared in the history of mankind, entreating and requiring the inhabitants to acknowledge and obey the Church as the superior and guide of the universe, the holy father called the Pope, and His Majesty as king and sovereign lord of these islands and of the *terra firma*; and concluding, but if you will not comply, or maliciously delay to obey my injunction, then, with the help of God, I will enter your country by force; I will carry on war against you with the utmost violence; I will subject you to the yoke of obedience to the Church and king; I will take your wives and your children and make them slaves, and sell or dispose of them according to His Majesty's pleasure; I will seize your goods, and do you all the mischief in my power, as rebellious subjects, who will not acknowledge or submit to their lawful sovereign; and I protest, that all the bloodshed and calamities which shall follow are to be imputed to you, and not to His Majesty, or to me, or the gentlemen who serve under me.

* "The conquest and subjugation of the country were carried out in the unscrupulous spirit of this proclamation. The pages of the historian are dyed with blood; and, sailing on the crimson stream, as master pilots at the helm, appears the leading, stern, and steady policy of the Spaniards, surer and more fatal than the sword, to subvert all the institutions of the natives, and to break up and utterly destroy all the rites, customs, and associations, that might keep alive the memory of their fathers and their ancient condition.

"The graves cry out for the old historian, and the mouldering skeletons of cities confirm Herrera's account of Yucatan, that 'there were so many and such stately stone buildings, that it was amazing. And the greatest wonder was, that, having no use of any metals, they were able to raise such structures, which seem to have been temples, for their houses were all of timber, and thatched.' And again he says, 'for the space of twenty years there was such plenty throughout the country, and the people multiplied so much, that men said the whole province looked like one town.'"

Let us now from the unknown proceed to the known, and take a practical view of Central America as it is presented at the present day.

The valley countries are fertile, and there are mountain elevations of from 5 to 13,000 feet. The coasts on both oceans are unhealthy. The climate varies. According to MacGregor, it freezes on the highest table-lands in winter. At Guatemala the dry season extends from November until June. The other months are rainy and stormy. The thermometer ranges between 56° the lowest to 86° the highest. On the Pacific the temperature is hotter and healthier than on the Atlantic. The population has been estimated as 1,500,000; viz. 125,000 European races, 500,000 mixed, 875,000 Indians. There are mines of gold, silver, iron, lead, and

mercury. They are much neglected. Jasper and marble are worked. Brimstone and salt are collected. Forests of valuable woods abound. The trees are sometimes 35 feet in circumference, and 90 in height. There are very large lakes. The rivers are numerous, but short. Mr. Stephens has a most interesting description of the *Usumasinta*, the largest river of Central America.

On the banks of the River Dulce is a small town called *Yzabel*. *San Juan* is at the mouth of the river of the same name, and receives its produce, hides, indigo, &c. *Omoa* receives goods destined for *Guatemala*, and *St. Salvador*. *Comayagna*, *Tegucigalpa*, and *Truxillo*, are in the province of Honduras; the last named has 4,000 inhabitants.

New Guatemala, the capital of Central America, is on an undulating plain, 4,961 feet above the level of the sea. The houses are low and stout, from the danger of earthquakes, and contain a population of 40,000. The city is famed for its religious celebrations. "The processions, in honor of the Virgin and others, are frequent. All the streets, through which the processions pass, are strewn with pine leaves, and adorned with arches decorated with evergreens and flowers. From the long balconies and windows are displayed curtains of crimson silk, and flags with various devices. At the corners are erected altars within huge arbours of evergreens, and in these altars pictures and silver ornaments, borrowed from the churches, are conspicuous, and surmounted with flowers. The plain, or the valley of Guatemala, is pre-eminent for the variety and brilliancy of its floral kingdom. These flowers are in profusion devoted to the embellishment of the religious processions."

Old Guatemala is at an elevation of 5,817 feet. It was the capital, but destroyed by an earthquake in 1773. The old inhabitants and their descendants cling to the ruins, and are in number 15,000.

Mr. Stephens says:—

"On each side were the ruins of churches, convents and private residences, large and costly, some lying in masses, some with fronts still standing, richly ornamented with stucco, cracked and yawning, roofless, without doors and windows, and trees growing inside above the walls. Many of the houses have been repaired. The city is partly repeopled, and presents a strange appearance of ruin and recovery. The inhabitants, like the dwellers over the buried Herculaneum, seemed to entertain no fears of renewed disaster. The great volcanoes of *Agua* and *Fuero* look down upon it. In the centre of the plaza there is a large stone fountain, and it is surrounded by magnificent buildings. The former palace of the Captain-General, displaying the armorial bearings granted by the Emperor Charles V. to the 'loyal and noble city,' and surmounted by a statue of St. James on horseback, armed and brandishing a sword, and the roofless and dilapidated cathedral, a vast edifice 300 feet long, 120 broad, nearly 70 feet high, and lighted by 50 windows, are monuments which tell us that *La Antigua* was one of the most superb cities of America, and to which Alvarado gave the name of 'the city of St. James of Gentlemen.'"

Totonicapan contains a population of 12,000, and manufactures earthenware, utensils, woollen cloths, &c. *Quezaltenango* contains 140,000, with some coarse manufactures. *Coban* has 14,000. *Salame*, 5,000. *Gualan*, 10,000. Mr. Stephens describes the last:—

"Towards evening we strolled through the town. It stands upon a table of breccia rock at the junction of two noble rivers, and is encircled by a belt of mountains. One principal street, the houses of one story, with piazzas in front, terminates in a plaza or principal square, at the head of which stands a large church with a gothic door, and before it, at a distance of ten or twelve yards, was a cross of about twenty feet high. The population is about 10,000, chiefly mestizoes. Leaving the plaza, we walked down to the motagua; on the bank a boat was in process of construction, about fifty feet long and ten wide, entirely of mahogany; near to it a party of men and women were fording the stream, carrying their clothes above their heads, and around a point three women were bathing. There are no ancient associations connected with this place, but the wildness of the scene, the clouds, the tints of the sky and the setting sun reflected upon the mountains, were beautiful. At dark we returned to the house. Except for the companionship of some thousands of ants, which blackened the candles and covered everything perishable, we had a room to ourselves. Early in the morning we were served with chocolate and a small roll of sweet bread. Toward evening the whole town was in commotion, preparatory to the great fête of Santa Lucia. Early next morning the firing of muskets, petards and rockets announced the arrival of this lady, one of the holiest saints of the calendar, and next to San Antonio, the most renowned for working miracles."

Realajo is a seaport on the Pacific, and exports mahogany, cedar, etc., to Peru and Chili. The harbor is most capacious. *Leon* is the capital of the State of Nicaragua; and, from a population of 30,000, has greatly declined. The population, in 1820, was 14,000.

"In walking through its streets," says Mr. Stephens, "I observed palaces in which nobles had lived, dismantled and roofless, and occupied by half starved wretches, pictures of misery and want, and on one side an immense field of ruins, covering half the city. I must confess that I felt a degree of uneasiness in walking the streets of Leon that I never felt in any city of the East. My change of dress did not make my presence more acceptable, and the eagle on my hat attracted particular attention. At every corner was a group of scoundrels who stared at me as if disposed to pick a quarrel. With some my official character made me an object of suspicion, for in their disgraceful fights they thought that the eyes of the whole world were upon them, and that England, France, and the United States were secretly contending for the possession of their interesting country."

Seba and *Valladolid* are unimportant. In the neighborhood of *Tegucigalpa* are mines of gold, silver, copper, and iron. *St. Salvador* has 16,000 inhabitants, who are industrious, and manufacture iron and cotton. In the vicinity of *St. Vincent* are plantations of indigo and tobacco. *St. Miguel* is noted for its fairs. *Sacatecoluca* contains 8,000 inhabitants. Fancy shell-work is manufactured at *Sonzonante*, on the banks of the Rio Grande, and exported. Sugar is also grown in the neighborhood, and exported. *Aguachapa* has 8,000 population. In the vicinity of *Santa Anna* are plantations of indigo and the best sugar; also, iron mines, which are worked. *Metapa*, *Managua* and *Masaya* are unimportant. *Granada*, on the banks of the Nicaragua Lake, has 14,000 inhabitants. Cacao is raised about the city of *Nicaraguay*. *Segovia* and *Comitan* are small towns.

The roads through Central America are execrable.

The agricultural productions are various. Wheat, barley and fruits abound on the table-lands. Indian corn is the principal article of food. Rice is grown. Sugar-cane, indigo, cochineal, tobacco

and cotton are widely cultivated. Mr. Stephens describes a hacienda or estate engaged in producing cochineal.

"In the yard were four oxen grinding sugar cane, and behind was the *nopol*, or cochineal plantation, one of the largest in the Antigua. The plant is a species of cactus, set out in rows like Indian corn; and at the time I speak of, it was about four feet high. On every leaf was pinned with a thorn a piece of cane, in the hollow of which were thirty or forty insects. These insects cannot move, but breed, and the young crawl out and fasten upon the leaf; when they have once fixed, they never move: a light film gathers over them, and as they feed, the leaves become mildewed and white. At the end of the dry season some of the leaves are cut off and hung up in a store house for seed, the insects are brushed off from the rest and dried, and are then sent abroad to minister to the luxuries and elegancies of civilized life, and enliven with their bright colors the saloons of London, Paris, and St. Louis in Missouri. The crop is valuable but uncertain, as an early frost may destroy it; and sometimes all the workmen of the hacienda are taken away for soldiers at the moment when they are most needed for its culture. The situation was ravishingly beautiful, at the base and under the shade of the Volcano de Agua, and the view was bounded on all sides by mountains of perpetual green; the morning air was soft and balmy, but pure and refreshing. With good government and laws, with one's friends around, I never saw a more beautiful spot on which man could desire to pass his allotted time on earth."

Immense herds of cattle are reared in the pasture lands. Manufactures are, of course, in a primitive state. A cotton factory is described near Realejo, built by an American, and owned by another, from which something was anticipated.

"Of the trade and navigation of this country," says Mr. MacGregor, "no statistical account can be obtained. Small vessels from the West Indies and the United States, and occasionally from Europe, frequent the coast, and carry on a trade chiefly contraband, in consequence of the pernicious system of high duties, which the government of the day, in some mischievous form or other, has attempted to establish. Vessels from the western coast of America also land various articles. Costa Rica has separated from the other states. Salvador may also be said to act independently. Guatemala is still under the sway of the Indian Carrera. Nicaragua has its separate misrule, and Honduras has published its distinct administration and customs laws. The tonnage duties for anchorage are four reals, or about two shillings per ton for native vessels, and double that amount for foreign vessels. These were the rates established in 1837 for all the other states. Export duties, as well as import, are also attempted to be levied, but at such irregular and changeable rates, that we have not been able to procure correct data to enable us to give tabular statements, or tariff, for any of the states of Central America.*

We have already, in previous numbers of the Review, furnished full and interesting information relating to the Isthmus country of Panama and Nicaragua, which renders any further comment unnecessary. We have also a paper upon Tehuantepec in Vol. III. COM. REVIEW.

Art. II.—UNITED STATES PUBLIC LANDS.

ORGANIZATION AND HISTORY OF THE LAND OFFICE—VALUE OF LANDS SOLD—LANDS GRANTED TO STATES AND TERRITORIES—RELIEF TO PURCHASERS—COST OF THE PUBLIC LANDS—AREA OF THE LAND, STATES, AND LANDS REMAINING—PRE-EMPTION RIGHTS—WAR BOUNTIES—MINERAL LANDS, ETC.

THE General Land Office, as a bureau of the Treasury Department, is more extensive and complex in its details than any other at Washington. A late report from the Commissioner, published by order of Congress, has just been received. On examination, highly interesting facts appear, and we propose to aid in spreading them more generally before the people. A glance at the machinery of the system may be proper, if only to impress the reader with a fair conception of the wisdom and labor which contrived and sustains it.

Whether Mr. Crawford, Secretary of the Treasury from 1817 to 1825, or some other distinguished adviser of Congress, first recommended the public lands to be laid off on the present plan, we have no evidence at hand to justify an award of credit. It is enough that a masterly, practical mind furnished the idea.

Before proceeding further, we beg to show the confusion which must have existed in land titles under the old method of surveying, to suit government scrip holders or bounty claimants. The case of Virginia is illustrative. This state had immense limits, which enabled her to make liberal provision for her troops in the Revolutionary War. Of these, she had two separate and distinct classes,—one in the continental line, subject to the orders of Congress, and the other under the exclusive control of her own state authority. To both she promised lands. Congress engaged likewise to those who served during the war. Hence, that portion of the Virginia troops on the continental establishment became entitled to double bounties. By deed of 1784, ceding the north-west territory, Virginia reserved a district in Ohio, containing upwards of 4,000,000 acres, to satisfy the claims for which she was liable. These lands were surveyed at random, so as to include the best for each holder. Frequently the lines crossed, and returns were made in favor of two or more conflicting parties for the same lots. This created litigation, which has continued for half a century to jeopard the property of thousands, and inflict enormous costs. The investigation of each case involved the acts of Virginia, the regularity of the original claim and survey, and of all subsequent titles resting on this foundation. Besides such proof, difficult to make after a long interval, the identity of boundaries had to appear in court. This could not always be established by the plat and field-notes. Oral testimony had to be invoked to show the beginning and marks of each survey. Who does not see the endless confusion and hazard of this state of things? It was a fortunate suggestion, which led to the

simplicity afterwards engrafted by Congress on the land system, the beneficial results of which are so widely felt and acknowledged. We will briefly state the merits.

Say that a district is owned by the government, to be surveyed and sold. It is divided by a meridian line, running north and south, with base lines east and west. On each of the latter, ranges, six miles wide, parallel with the meridian, are thrown, and checked at the same distance, forming townships of thirty-six sections of 640 acres, or a square mile, numbered from the north-east corner backward and forward. These are subdivided into halves, quarters, eighths, and sixteenths, subject to private entry, after having been offered at public sale, without commanding \$1 25 per acre, the minimum price. Purchasers obtain government titles designating the entire section, the half, quarter, half quarter, or half of the half quarter, ranging from 640, 320, 160, 80 to 40 acres, as the case may be. This is the form in which divisions are expressed, varying to suit the compass for the lot selected. At the entering, certificates are issued by the receiver for the proper quantities, and duplicates registered in the office. Maps, on a scale of one mile to the inch, are usually kept, on which, as sales take place, a mark signifies the fact. The vacant lands are thus represented. Persons wishing the information can obtain it from the maps; or, if they prefer, a plat of any township, duly scored, will be prepared instantly and sold for a small fee, say fifty cents or a dollar to the clerk in charge.

The land office papers are truly voluminous. Some idea may be formed from the report of the Commissioner in 1840, when the number of certificates had reached 810,667. Offices in three states had returned over 100,000; viz. Indiana, 152,655; Illinois, 132,890; and Alabama, 114,802. On each of these, a patent had to be issued at Washington, with the signature of the President. There was great justice in the relief afforded by Congress to Gen. Jackson and his successors, by deputing another to sign patents. The returns from receivers, annually, are about 400 to be adjusted. In addition to the space occupied on the books by every certificate and map of sale, and the business entries, each patent is recorded at large. All these duties form only a part of the work.

The correspondence of the land office, of whatever description, is copied on the books. Instructions to registers, receivers, deputy surveyors, and all the agents employed, are likewise preserved in duplicate. In ten thousand controversies between claimants, the Commissioner has to decide, and often on the advice of the Attorney General, to whom the facts are submitted in writing. The arguments for and against each pretension are spread out freely. Whoever will examine the many volumes printed on this subject, will see the propriety and extent of the practice. They serve as guides in similar cases, and furnish the law of each appeal. In this branch of its functions, the land office is something more than a routine of mechanical labor. A degree of intelligence is required equal to that of any Bureau at Washington second to the heads of department. In proof, we refer to the 2,537 entries which have been confirmed by

the Secretary of the Treasury, Attorney General and Commissioner, under the act of 1846, respecting controverted claims. The aggregate thus adjusted was 332,870 acres, of which the largest proportion is in Louisiana; say 525 pre-emption entries, embracing 80,080 acres. The next from Missouri, 492 entries, and 61,450 acres. In Mississippi, 242 pre-emption entries embraced 20,600 acres, and 473 private entries about 44,560 acres. In the nine other states litigating, the quantity was much less.

Having viewed the machinery of the land office in defining the public domain, granting title, and preserving the evidence, we proceed to facts more statistical.

RECEIPTS AT THE TREASURY—VALUE OF PUBLIC LANDS SOLD FROM
1833 TO 1840.

States and Territories.	1833.	1834.	1835.	1836.	1837.	* 1838.	1839.	1840.	Total.
Ohio.....	692,426	600,561	826,224	1,663,116	588,584	803,945	315,559	27,141	9,017,544
Indiana.....	693,522	842,170	2,075,571	4,061,491	1,564,653	753,419	773,998	114,151	10,878,888
Illinois.....	450,242	439,613	2,604,698	4,000,294	1,266,118	887,170	1,445,766	387,304	11,581,269
Missouri.....	296,522	320,978	828,131	2,071,304	830,095	642,067	1,304,718	567,152	6,880,880
Alabama.....	565,818	1,444,289	1,985,449	2,377,573	477,219	504,935	189,728	43,442	7,351,460
Mississippi.....	1,531,390	1,470,323	3,835,625	2,581,282	320,660	339,060	22,234	18,295	10,068,873
Louisiana.....	111,809	104,813	407,445	1,059,323	288,692	216,330	822,060	169,875	3,240,369
Michigan.....	563,261	643,826	2,271,875	8,341,228	969,071	121,929	175,008	24,340	10,010,245
Arkansas.....	52,521	213,020	787,927	1,304,544	353,083	187,587	168,710	113,180	3,110,377
Wisconsin.....	.....	.....	316,709	808,952	223,479	109,416	819,900	197,197	2,405,644
Iowa.....	.....	.....	.....	.....	.....	343,664	373,180	550,796	1,307,642
Florida.....	14,963	48,364	60,455	108,836	125,907	96,015	70,660	29,191	516,406
Total.....	4,972,284	6,099,981	15,999,804	25,107,833	7,007,523	4,303,564	6,464,556	2,592,802	72,269,719

This table is derived from the report of Mr. Whitcomb in 1840, and introduced to show the rise in three years from \$5,000,000 to \$25,000,000 in sales under the paper system, and the sudden decline of \$18,000,000 after the specie circular of President Jackson in 1836. It is given as a record of the times. Previous to 1833, the sales were comparatively small. From a Senate report in 1832, we learn that the sales for 1828 amounted to \$1,108,308; in 1829, \$1,517,175; in 1830, \$2,329,356, and in 1831, \$3,000,000. That the sales never exceeded the latter sum in any one year, is proved by the annual report of the Secretary of the Treasury in 1831, in which he says:—"The receipts from the public lands during the present year, it will be perceived, have likewise exceeded the estimates, and, indeed, have gone beyond any former example." How rapidly this column ascended within the next five years, and then gradually sank below its ancient level!—A striking illustration of the agency of banks in expanding and contracting the business of the country.

GRANTS TO THE STATES.—Without expressing an opinion on the power of the government to apply the public lands to other than national objects, we annex a statement from official sources:

UNITED STATES PUBLIC LANDS.

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WHOLE QUANTITY OF LANDS GRANTED TO THE STATES AND TERRITORIES.

States and Territories.	Colleges and Acad.	Internal Improvements.	Seats of Gov't.	Salines.	16th Sections.	Total.	Amount at \$1.25 per acre.
Ohio.....	69,120	1,050,587	....	25,680	878,576	1,923,663	2,404,578.328
Indiana.....	46,080	783,209	2,560	23,040	586,184	1,411,078	1,763,841
Illinois.....	46,080	689,085	2,560	121,629	977,477	1,836,761	2,295,938
Missouri.....	46,080	500,000	2,449	46,080	1,086,639	1,881,348	2,351,560
Alabama.....	46,080	500,000	1,620	25,640	732,190	1,293,410	1,616,742
Mississippi.....	46,080	500,000	1,250	....	635,984	1,183,244	1,479,055
Louisiana.....	46,080	500,000	....	....	873,972	1,420,052	1,775,066
Michigan.....	46,080	500,000	13,300	46,080	543,893	1,149,253	1,436,566
Arkansas.....	46,080	600,000	10,800	46,080	990,353	1,553,018	1,941,272
Florida.....	46,080	800,000	1,120	....	877,484	1,434,684	1,789,555
Wisconsin.....	46,080	171,300	....	....	*1,310,434	1,527,704	1,909,630
Iowa.....	46,080	500,000	640	....	469,832	1,016,522	1,270,690
Total.....	576,480	6,693,761	36,029	329,629	9,682,814	17,318,623	21,648,279

* The 16th sections for Wisconsin and Iowa estimated according to the area of those States.

RELIEF TO PURCHASERS.—While tracing the action of Congress in behalf of the states, we notice, that for the relief of individuals who had become indebted to the government for lands previous to 1820, the minimum price was \$2, and large sales had been made over that sum, even to \$50 and \$70 per acre, on credit, after a trifling cash instalment. In this year, however, the price was reduced to \$1 25, at which it has since remained. Debtors saw their condition, and asked relief, which was granted by sundry acts of Congress to 1832. They were permitted to relinquish the lands purchased, and receive back their bonds, upon forfeiting what they had already paid to the government.

TABLE SHOWING THE QUANTITY RELINQUISHED, AMOUNT OF PURCHASE MONEY, AMOUNT ABATED BY GOVERNMENT, AND AMOUNT FORFEITED BY PURCHASERS.

	Acres relinquished.	Original purchase money.	Abated by Gov't.	Forfeited by Purchasers.
Ohio.....	432,954	\$1,038,932	\$1,155,128	\$668 28
Indiana.....	704,315	1,427,465	823,108	2,430 21
Illinois.....	697,334	1,401,512	603,288	3,288 85
Missouri.....	709,346	2,004,693	1,256,206	818 43
Alabama.....	1,842,535	8,649,400	8,020,297	7,141 64
Mississippi.....	188,990	377,980	298,081	1,456 25
Louisiana.....	1,893	3,797	18,407	—
Michigan.....	25,196	79,844	59,569	—
Total.....	4,602,573	14,983,631	12,234,036	15,853 66

From this showing, the government was very little profited by the forfeitures. The lands relinquished, (4,506,418 acres,) at \$1 25, would yield \$5,633,022, which would be so much refunded. Whatever the loss, it was better that the government should bear it than individuals, who would have been deceived by the transaction. The cash system having been adopted since 1820, there has been no other occasion for appeals to Congress to rescind contracts for land.

COST OF THE PUBLIC LANDS.—The Register of the Treasury, in answer to a resolution of Congress, reported the following in 1832:—

Payment on account of the purchase of Louisiana:—

Principal.....	\$14,984,872 28
Interest on \$11,250,000.....	8,529,353 43
	23,514,225 71

Payment on account of the purchase of Florida:—

Principal.....	\$4,985,599 82
Interest to 30th September, 1831.	1,265,416 67—\$6,251,016 49
Payment of compact with Georgia.....	1,065,484 06
Payment of Yazoo claimants.....	1,830,808 04
Payment of contracts with the several Indian tribes, (all expenses on account of Indians.).....	11,852,182 56
Payment of commissioners, clerks, and other officers, employed by the United States for the management and sale of the western domain.....	3,563,834 54
	<u>\$48,077,551 40</u>

Amount of money received at the Treasury as the proceeds of public lands, to 30th September, 1831..... \$37,272,713 31

Since 1832, several treaties have been made with the Indians, for the extinguishment of their title, the cost of which we have not the means of ascertaining. But, within the last sixteen years, the expenditures of the government have been about \$30,000,000, on account of the public lands; and their whole cost, up to 1848, as stated in Congress by Gov. Brown, of Mississippi, was \$77,130,498. We have seen nothing official on the subject later than 1832, as quoted. The whole amount received for sales to 1848, is \$130,280,156, leaving a clear gain to the government of \$53,149,428, according to Gov. B., who, no doubt, had proper data. The lands unsold, to which the Indian title has been extinguished, amount to 242,342,802 acres. By a table from the commissioner, showing the area of the states holding public lands, it will be seen that the government has about 800,000,000 acres unsurveyed in the north-west territory.

SALES OF LANDS IN 1846 AND 1847.—Merely to post up, we annex a table showing the receipts at the Treasury for lands sold in 1846, and in the three first quarters of 1847, together with the amount of incidental expenses in each state, where offices are open, for the same period.

UNITED STATES LAND OFFICE SALES, ETC.

	1846.	3 qrs. 1847.	Expenses.
Ohio,.....	\$150,827	\$107,081	\$12,042
Indiana,.....	127,596	193,182	23,052
Illinois,.....	548,650	410,226	53,391
Missouri,.....	181,142	240,213	20,859
Alabama,.....	104,106	127,042	21,743
Mississippi,.....	47,907	26,994	16,882
Louisiana,.....	61,221	69,932	19,178
Michigan,.....	38,593	47,202	10,640
Arkansas,.....	17,748	92,560	20,040
Florida,.....	44,317	24,735	10,170
Iowa,.....	284,897	298,311	27,562
Wisconsin Territory,.....	798,861	600,224	41,929
Total,.....	<u>\$2,405,871</u>	<u>2,337,684</u>	<u>237,565</u>

As to the incidental expenses stated in the report, we are at a loss to conjecture the items which constitute them. We presume that registers, receivers, and agents, to whom a fixed compensation is allowed, are not embraced; but that surveys, and other objects which necessarily involve an expenditure, form the basis. The footing up shows a fraction over five per cent. on \$2,904,637, the gross amount of purchase money in 1846. Of this sum, \$2,713,648 was paid in cash; \$20,816 in treasury notes; \$300 in forfeited land stock; \$19,460 in military scrip, and \$150,412 in Choctaw certificates—in all, \$290,988, which, with expenses deducted, left the balance paid into the treasury.

For three quarters of 1847, as stated, the receipts were nearly equal to the whole of 1846. If the last quarter was in proportion, the receipts for 1847 fall very little short of \$3,000,000—an average requiring forty-three years to make the sum total received by the government. By reference to a preceding table of sales, from 1833 to 1839 inclusive, it will appear that in those seven years the sum of \$70,017,547 accrued to the treasury from the public lands—more than half the whole amount since the origin of the government.

AREA OF THE LAND STATES.—In the table furnished by the Commissioner, is an estimate of the area of the states and territories containing public lands, the quantity surveyed, that in process of survey, and the number of acres not yet surveyed or put under contract.

PUBLIC LANDS REMAINING IN THE STATES.

	Entire Area,	Surveyed.	In process of Survey.	Unsurveyed
Ohio.....	Acres, 25,361,593	25,361,593	—	—
Indiana.....	" 23,411,431	23,411,431	—	—
Michigan.....	" 38,426,294	27,697,906	300,000	10,428,388
Iowa.....	" 16,913,972	12,803,351	1,730,000	2,380,621
Wisconsin.....	" 47,175,292	42,455,825	1,500,000	33,219,467
Illinois.....	" 35,235,209	35,235,209	—	—
Missouri.....	" 43,169,028	39,838,171	650,000	2,680,857
Arkansas.....	" 33,086,548	31,565,908	1,200,000	320,640
Mississippi.....	" 30,153,054	30,153,054	—	—
Louisiana.....	" 28,297,602	19,906,897	325,000	8,065,705
Alabama.....	" 32,499,872	32,465,746	—	34,126
Florida.....	" 34,423,055	13,106,045	1,650,000	19,667,010
N. W. Territory east of the Rocky Mountains and west of Miss. river, exclusive of ceded lands in Iowa.....	" 478,549,708	—	—	478,549,708
N. W. Territory, west of the Rocky Mountains, Emigrant Indian lands West of Mississippi and Arkansas.....	" 218,536,320	—	—	218,536,320
	" 132,295,680	—	—	132,295,680

Connected with this subject, it may be curious to pursue the calculation. Estimate the vacant lands to which the title of the government is complete, at 240,000,000, and the domain north-west more or less encumbered by the Indian tribes, at 800,000,000, and the aggregate is 1,040,000,000 acres, which, at fifty cents per acre, would

yield five hundred and twenty millions of dollars to the Treasury ! Add New Mexico, say 500 miles in length and 200 in width, the area will be 100,000 square miles, or 64,000,000 acres ; and California, 600 miles long and 300 wide, will amount to 180,000 square miles, or 115,000,000 acres ;—both together about 180,000,000. Suppose the whole population of the United States, 20,000,000, were destitute of land, the government could supply each man, woman and child, white and black, with sixty acres of the public domain. Reduced into families of five persons, the share would be 300 acres to each head of a family,—enough, with diligent cultivation, to produce ample support. This, however, is a mere speculative view, without any disposition to favor a grant on such a scale ; yet we believe that the more liberally government acts in behalf of settlers, the happiness of the people and the prosperity of the Republic will be increased. It may be urged against too free a use of the public lands, that they should be retained for emergencies, so that the government may establish a sufficient credit on this security, should occasion require a loan, especially if revenue from imports be cut off by war with European powers. This necessity can never arise. In case of war the people will cheerfully submit to taxation in any form to sustain our flag ; and such are the admitted resources of the country, and willingness to contribute, that government bonds will be at par value in all parts of the world.

Besides, the sooner government can dispose of its lands, the better for all parties. So long as they remain a subject of political discussion, the public mind will be influenced by appeals alike unworthy a high standard of statesmanship, or of an intelligent constituency. It is right that every man who desires, should have a domicile ;—and we go farther in public policy,—that domicile, with acres enough for industry to live upon, should be inalienable. The best hold government can have upon the affections of the citizen, is reciprocity of interest ; the one rewarding with kindness the sacrifices which the public service may at any time demand, and the other performing with alacrity, because, if disabled or slain, provision will be made for his relief, or those dear to him. In this spirit of mutual obligation, the Republic has its safest guaranty.

PRE-EMPTION RIGHTS.—The Commissioner advises a course toward actual settlers in which we fully concur,—the law to be so modified as to embrace every family who may in good faith seek a home on the public lands, whether surveyed or not, provided the Indian title has been extinguished. We cannot find better expression than the reasoning of the Report, p. 29 :

“ A policy thus liberal towards a very large class of our fellow-citizens cannot fail to produce the most beneficial results. It will facilitate the settlement and improvement of the frontier portions of the country, raise up a hardy race of backwoodsmen for its protection against the encroachments of our Mexican and Indian neighbors, afford them the means of improving their condition in many respects, and, above all, to educate their children, and will impress those patriotic frontieremen with deeper feelings of regard for their government, when they find that they are no longer in danger of losing their hard-earned improvements, by being brought into competition with a more wealthy class of citizens at the land sales.”

GRADUATION OF PRICE.—The views of the Commissioner on this head are sound and expedient, viz : that the refuse lands, for many years culled over, should be reduced in price so as to find sale, thereby aiding the treasury, and relieving it proportionably from interest on loans; and also to enable the states within which the lands lie, to impose the necessary tax to which other lands are subject, after five years, from sale.

WAR BOUNTIES.—Any objection to grants of land to the soldiers who fought our battles, should rest for validity on some ground other than loss of revenue. With a national domain exceeding ten hundred millions of acres, the quantity, even a section to each man, would be a trifle. Say that 40,000 soldiers were in Mexico at different stages of the war, all entitled to 160 acres, the aggregate would be only 6,400,000 acres,—scarcely to be felt in the administration of this interest. If allowed half a section, (320 acres,) the result would be twice, and if a section, (640 acres,) four times the quantity,—total, 25,600,000 acres. This may appear extravagant, and, compared with former legislation, is somewhat startling. If soldiers would settle upon their bounty lands, and thereby reap the full benefit, we should defend the liberality we have suggested; but as nine-tenths barter off their scrip for a trifle, from 25 to 40 cents per acre, merely serving as prey to speculators without any solid advantage to themselves, we cannot justly advocate such an appropriation by Congress. A direct pecuniary grant, which shall produce to the holder par value in any market, is preferable, and government stock would be laudably issued for this object.

The bounty lands granted by Congress to soldiers of the Revolution, and the war of 1812, in lieu of money, amounted in the aggregate to 9,750,000 acres.

MINERAL LANDS.—The report includes much information from Lake Superior, and from Wisconsin and Iowa, respecting ores on the public lands. Dr. Jackson, a learned geologist, has explored the Lake region with a sufficient corps, and in summing up his discoveries, says :

"We certainly have the most wonderful veins of native metals there that have ever been seen in the world. * * * * *

"With regard to the government, it will certainly be considered a liberal and enlightened policy to explore each new region, and to lay before the public a true account of what may be expected in the rocks and soil. The settlement of the country by emigration from more populous districts, and from Europe, will be the necessary result, and an active business will be created along the line of our great lakes, communicating with our mineral lands. Mining will cause a settlement of that district by our active population of miners, mechanics and farmers, when, if only agricultural lands were sought for, no one would think of going to the shores of Lake Superior, while so many fertile lands offer their attractions elsewhere."

Dr. Owen, U. S. Geologist for Wisconsin and Iowa, furnished an interesting narrative of his labors, from which we should be glad to extract passages, if the limits of this article were not already too extended.

ART. III.—THE AMERICAN INDIANS.*

The government observes a policy which secures the highest good to the Indians,—holding stocks, and applying the interest as stipulated by treaty. In many instances the purpose is declared, say for orphans, education, afflicted persons, &c. We have prepared a table, showing the amount of stocks and annual interest for the several tribes sustaining this relation.

STOCKS IN TRUST FOR THE INDIANS.

	Date of Treaty.	Principal.	Am. int.
Osages,.....	—, 1825.....	\$32,079	1,850
Kansas,.....	June, 1825.....	27,144	1,491
Choctaw orphans,.....	Sept., 1830.....	49,496	2,738
Choctaws (education),.....	Sept., 1830.....	62,439	3,730
Senecas,.....	Feb., 1831.....	5,000	250
Senecas and Shawnees,.....	Feb., 1831.....	13,000	685
Shawnees,.....	Aug., 1831.....	32,076	1,914
Creek orphans,.....	June, 1832.....	163,213	8,535
Chippewas and Ottawas.....	Sept., 1833.....	199,229	11,669
Pottawatamies (education),.....	Sept., 1833.....	82,056	4,058
Chickasaws, disabled,.....	May, 1834.....	2,000	100
Chickasaw orphans,.....	May, 1834.....	7,833	398
Cherokees,.....	Dec., 1835.....	759,899	38,692
Chippewas and Ottawas,.....	Mar., 1836.....	118,176	6,104
Menomonies,.....	Sept., 1836.....	115,114	6,016
Choctaws,.....	Jan., 1837.....	500,000	25,000
Delawares (education),.....	—, 1838.....	7,806	468
Stockbridge and Munsees,.....	May, 1840.....	5,204	312
Total,.....		2,181,821	114,118

In addition, the government pays interest of five per cent. annually, on the following sums, in lieu of investing the same in stocks:

ANNUITIES TO THE INDIANS.

	Date of Treaty.	Principal.	Interest.
Delawares,.....	Sept., 1829.....	\$46,060	\$2,304
Choctaws,.....	Sept., 1830.....	87,200	43,600
Chippewas and Ottawas,.....	May, 1836.....	200,000	12,000
Siox of Mississippi,.....	Sept., 1837.....	300,000	15,000
Sacs and Foxes of Missouri,.....	Octr., 1837.....	175,400	8,770
Sacs and Foxes of Mississippi,.....	Octr., 1837.....	1,000,000	50,000
Winnebagoes,.....	Nov., 1837.....	1,185,000	59,250
Iowas,.....	Jan., 1838.....	157,500	7,875
Osages,.....	Jan., 1838.....	69,120	3,456
Creeks,.....	Nov., 1838.....	350,000	17,500
Senecas of New-York,.....	May, 1842.....	75,000	3,750
Kanzas,.....	Jan., 1846.....	200,000	10,000
Pottawatamies,.....	June, 1846.....	643,000	32,150
Total,.....		5,273,100	265,655

a By Acts of Congress 1842 and 1845.

We have seen no estimate of the number of each tribe in the ter-

*Concluded from p. 274. Vol. V.

ritory west of the Mississippi, but the entire Indian population, east of the Rocky Mountains, is supposed to be about 300,000. As the census is never taken, conjecture is resorted to, aided by such verbal reports as can be drawn from the chiefs and head men.

The Commissioner has submitted the agency reports, from which we extract. In regard to the Indians in Michigan, the sub-agent at Sault St. Marie, says :

"They have raised abundant crops of potatoes; it is said they will have a large quantity for sale. With their oxen, of which they (at the Ance Kewewena) have two yokes, they have done much towards clearing spots of gardens. Their stock of cows and hogs have increased considerably. The means of supply and comforts which these Indians possess, and are seeking to augment, have been promoted by the exertions of the missionaries and the government operatives who are with them, and who have been active in preventing the introduction of whiskey at the Ance."

Referring to another town, the report continues :

"They appear anxious to put up houses for themselves, and the logs and barks for several have been got out; they have been, however, unable to get plank and nails to complete them.

"This Sault band have sold not less than 400 barrels of fish; last spring they made about 8,000 pounds of maple sugar. The turnips, pumpkins, and corn gathered this fall, have been as abundant as at any previous season."

The Chippewas in Wisconsin are thus represented :

"They plant to thrice the extent, and are yearly increasing the amount; and men who, four years ago, would have considered it a lasting disgrace to perform any kind of agricultural labor, now lay hold manfully and consider it highly honorable. They are fast abandoning the principle of a community of property, and each man begins to feel that his business is to provide for his own family, and to make provision in time. They have abandoned, to a considerable extent, the ceremonies and practice of their heathen worship and heathen creed; and, although they may practice it, acknowledge the truth and superiority of the white man's religion. Many of them have adopted, in whole or in part, the dress of civilized men, and live, so far as their circumstances will admit, in a civilized manner."

The Agent at Fort Leavenworth reports :

"The Kansas, Shawnees, Delawares, Kickapoos, Stockbridge, Munsee and Christian Indians, are the tribes that are placed under my care, all of whom, except the Kansas, are doing well, and becoming more and more civilized, and better agriculturists every year. This year they have raised an abundance of corn to do them—many of them will have to spare; some have already sold considerable lots of corn; many of them raise oats and some wheat, and all raise vegetables of various kinds,—pumpkins, cabbages, potatoes, &c., &c.

"These tribes send many of their children to school. There are two manual labor and one common school among the Shawnees, one common school among the Delawares, and one among the Christian Indians, and, until lately, one among the Stockbridges. At the Methodist manual la-

bor school among the Shawnees, this year there are 125 scholars: 78 males and 47 females; of this number, the Delawares furnish 19 males and 19 females; the Shawnees furnish 21 males and 9 females; the balance of the number is made up from various other tribes. At this institution they are endeavoring to give males and females, at least a common English education. The males are taught the various branches of agriculture; some of them are placed under mechanics, to learn trades,—such as wagon-makers, blacksmiths, and shoemakers. The females are taught all the duties of housewifery, cooking and spinning, weaving, knitting, &c."

From the Upper Missouri Agency, we have the following:

"The Indians are in good health and doing unusually well. Their resources amounted to \$300,000 for the last season, which may be estimated as follows:

75,000 buffalo robes, at \$3.00 per robe,.....	\$225,000
Furs, peltries, &c.....	35,000
Miscellaneous trade,.....	40,000

The aggregate of which is as above stated.....\$300,000

And would be amply sufficient to supply all the wants of the Indians, but for the extravagant prices of goods, which are unreasonably high, and should be curtailed."

The report states—

"There are nine tribes in the agency, and they may be estimated as follows:

The Sioux	number 2,520	lodges, containing 19,660 souls
The Arikarees	" 240	" " 1,800 "
The Gros Ventres	" 150	" " 1,350 "
The Mandans	" 40	" " 360 "
The Poncas	" 200	" " 1,600 "
The Chayennes	" 317	" " 2,536 "
The Crows	" 530	" " 5,300 "
The Blackfeet	" 810	" " 6,480 "
The Asseneboines	" 980	" " 6,860 "

The aggregate number of which is..... 45,946 "

Total number of lodges, 5,537, which would be a fraction of over eight souls to the lodge.

"The Sioux, Chayennes, Gros Ventres, Mandans, and Poncas are excellent Indians, devotedly attached to the white man, and live in peace and friendship with our government; and they are entitled to the special favor and good opinion of the Department for their uniform good conduct and pacific relations."

The officer in charge of the Wyandott Agency, remarks:

"Few, if any of the North American tribes have advanced as far towards the much desired goal than have the Wyandotts; they can boast many men of acquirements and letters. The arts and sciences find their votaries among this people. The spirit of improvement is abroad and amongst them. Many have, during the past season, erected comfortable houses, extended their fields, and purchased oxen and horses to carry on their farming operations. The fertility of the soil of the tract of country on which the Wyandotts are settled, and the skill with which many of them cultivate it, were referred to in my last annual report. The circumstan-

ces then warranted me in so favorably noticing, but the evidences which have transpired during the past season make what was then said still more palpable; for I venture the assertion, that better crops of corn cannot be found in any other section of the country. Some of them have also made experiments the past season in wheat-growing, and their efforts, it is gratifying to inform you, have resulted in the most complete success. Every other species of agricultural products equally cultivated in the same climates, are produced in abundance and in the greatest perfection on the lands of the Wyandotts.

"A commendable zeal for the education of the youth is felt by many of these people. Notwithstanding the fund of five hundred dollars, annually appropriated by the government for that purpose, is ample, several families have sent their daughters and sons to select schools abroad, some four of whom have recently returned with education and accomplishments derived from their more highly favored white neighbors. Amongst these are the daughters of W. W.; one of whom has since accompanied me to St. Louis and purchased a piano, and I understand is quite proficient in the use of it. Strange sounds these in an Indian country! Yet the philanthropist, it is hoped, may safely look forward to no very distant day when not only the Wyandott, but many other aboriginal tribes of our country, shall have fully emerged from the savage state into the full blaze of civilization."

Of another tribe, the agent says:

"Accounts from the other Choctaws, the 'old settlers,' represent that their crops have been unusually abundant this year, the season having been remarkably favorable. It is said that there will be a large surplus of corn, and that over one thousand bales of cotton will be shipped from the settlements bordering on the Red River. I am not able to give you the exact number of the tribe, the census returns being still incomplete; but it is the opinion of its more intelligent members, that notwithstanding the last year has been unusually sickly, the population is increasing. The settlements are extending westward rapidly, already reaching 200 miles west of the Arkansas line. Whether at present they are materially improving as a people, I am not able to judge, not having been long enough among them; though from the statements of the very respectable and intelligent gentlemen, who have resided among them the last twenty years as missionaries, it would seem that they are."

From the Cherokee Nation, the agent reports:

"The season has been very favorable to the production of grain, and all other vegetables raised for domestic use; and the general health of the country, this season, has thus far been very good. Upon the whole, the affairs of the nation may be considered in a much better situation than they were last year. Owing to the party and political differences which have for upwards of seven years agitated the nation, much diversity of opinion has heretofore existed between the different parties in regard to the propriety and necessity of dividing into separate and distinct governments, either by a partition of the country they now occupy, or by the government of the United States providing a new home in a distant country for a portion of them, by which they would be finally separated. The provisions of the late treaty, however, have dissipated that policy, and it now seems the settled opinion, that the country they now inhabit is to be considered their permanent home as a nation. The settlement of this question has imparted energy to the undertaking of national improvement, and given permanency to their designs. In addition to the eight

public schools in the nation and the missionary establishments, the authorities of the nation have resolved on building two seminaries, near Tah-le-quah, or the council ground; one for the education of males, and the other for females. This laudable undertaking has been embarked in with commendable energy; and since the commencement of the manual labor, has given daily employment to about seventy-five hands, including mechanics and ordinary laborers. The buildings are of brick, and will be large and commodious. The probable cost is estimated at about \$35,000.

The Chickasaws are thus referred to by the agent :

"I feel satisfied now that in the course of a few years all the Chickasaws will be once more together; and they ought to be so, for they have a beautiful country, well adapted to all their wants, with a fine climate, and they will be much better contented; there will not then be that jealousy existing among them that did exist a few years since, and the unkind feelings which exist between them and some of the Choctaws, I think, will be entirely removed. They will be more convenient to the place of paying their annuities, and their schools, (should they have any.) They have fine crops this year of corn, cotton, oats, potatoes, &c. Their supply of corn this year will be very great—larger than it was the last year; their stock of horses, cattle and sheep are improving, but they have not succeeded so well in raising hogs as they ought; it only requires little attention to raise fine hogs in this country.

"I hear of but few in the nation that do not make more corn than will subsist them; they raise a great many fowls, and those that are situated within from 10 to 20 miles of Fort Washita, furnish it with butter, potatoes, chickens, eggs, &c. The merchants used generally to get contracts to furnish the Fort with corn, but now they are furnished by the Chickasaws. This year the contract is for only seven thousand bushels; the Indians could furnish forty thousand bushels at the contract price, which is 43 cents,—but their corn will be of little use to them, as they have no way of shipping it to any foreign country. Had they navigation, their country would be much more valuable; but they can in this country live very independently."

The Seminoles appear to retain their savage condition with unyielding pertinacity, as an extract from the report of the agent will show. The only mitigation refers to the soil, concerning which the agent remarks :

"The crops have been very abundant, much more being raised than will be required for the subsistence of the tribe; in fact, I think they will bear a comparison, as *agriculturists*, with almost any tribe on this border. Their crops consist of corn, rice, potatoes, pumpkins, ground nuts or goba peas, beans, &c. The hunt of last year was, in a measure, unsuccessful, and the Indians have not, in so great a number, engaged in it this fall. The debts which they incurred for goods preparatory to going out last season, have not yet been entirely extinguished, and the price of peltry holds out but poor inducements to the hunter, particularly where game is as scarce as it is in this country."

The following passage from the report depicts the old Indian character, which, we fear, will forbid modification, under all efforts :

"The subject of education is thought about as little of as if it was only intended for white people. They feel themselves, and desire to be con-

dered, as decidedly beyond the pale of civilization, perfectly satisfied to walk in the 'footsteps of their predecessors,' showing, as far as mental improvement is concerned, a philosophy in being satisfied with their present state, which, considering their being human, is truly astonishing. Other people make serious charges against Providence for their misfortunes, troubles or wants; but the Seminoles never accuse the 'Great Spirit' of doing any injury, but give Him the credit side of the account, and leave Istahutkee to answer for the debit."

The Creeks present a happy contrast. We quote the words of the agent:

"They have become conscious of the advantages accruing to them from receiving and encouraging religion and education, upon which subjects they feel a great interest. The prejudices formerly indulged against the people of the United States have become extinct, and the fostering care and kindness of the general government understood and appreciated. At peace among themselves, and upon the warmest expressions of friendship with their neighbors—with all the elements of prosperity around them,—they present every appearance of a happy and contented people.

"I mentioned in my report of last year that the Creeks would have a large surplus of corn left for sale; so it proved to be, —nearly 100,000 bushels having been exported from the country, a large portion of which was purchased for shipment to Ireland and other foreign countries. It is computed that about 1,000 head of pork hogs were sold during the winter. The large stocks of cattle owned by the Creeks have attracted the attention of drovers from Missouri, Illinois and Indiana, and several hundred head were sold to them during the spring and summer. The crops of the present year are good; though owing to the extremely backward spring and wet summer, not so much surplus will be left as from those of last year. Large numbers of pork hogs will be offered for sale during the approaching winter."

The foregoing extracts, somewhat copious, are submitted to show the condition and prospects of the Red Man in his western home. A statement of missions and schools, however compressed to be intelligible, would extend this notice farther, perhaps, than most of our readers would approve. A report of the Rev. Thomas S. Williamson, for nine months of the school at Kapoja, known as Little Crow's village, states the Indian pupils:

	MALES.	FEMALES.	TOTAL.
Number that read and write legibly...	3.....	4.....	7
" " but do not write....	5.....	12.....	17
" spellers.....	9.....	11.....	20
" learning alphabet.....	2.....	7.....	9
	19	34	53
Baptized.....	8.....	13.....	21

Included in the papers which form 186 pages attached to the Report of the Commissioner, is a mass of information relative to the Indians, which the statesman who watches their destiny, the philanthropist who cares for their comfort, and the Christian who is solicitous for their spiritual welfare, may reflect upon with the deepest interest. As such, we commend it to their attention. There are

twenty-five reports from superintendents, agents and sub-agents, and twenty-six in relation to schools and farms.

We recur briefly to the remnant of Indians in the state of New-York, as reported by the sub-agent at Ellicottville. He says :

" The population of the tribes within this sub-agency is gradually increasing, and apparently keeping pace with their improved circumstances. As nearly as I can determine, they number at present, as follows :

Senecas.....	2,700
St. Regis.....	457
Onondagas.....	375
Tuscaroras.....	300
Oneidas.....	210
Onondagas residing with the Senecas.....	140
Cayugas residing with the Senecas, about.....	60
Oneidas residing with the Senecas, about.....	30
Total.....	4,272

" The season has been highly favorable to the growth and maturity of their crops; and the aggregate produce of the harvest must greatly exceed the supply required for their subsistence. I am happy to perceive among them a growing spirit of industry—slight and gradual, it is true, but still advancing—which is manifested in clearing new lands, enclosing the old with better fences, and erecting and repairing both houses and barns; and there are now but few families who have not comfortable homes and a sufficient supply of the necessaries of life."

Besides New-York and Ohio, in which large districts of land have been guaranteed to certain tribes so long as they remain peaceable, a few other states east of the Mississippi contain an Indian population, the whole not exceeding 30,000. Even this number is annually reduced by emigration West. Success, however, does not in every case attend the removing parties. Two summers ago, 176 Indians left New-York, and in twelve months 94 returned, 82 of their companions having died in the West.

To sum up our Indian relations would be an interesting task. When the government was organized, in 1789, there was no state west of the Alleghany mountains. From Ohio to Georgia, in a north and south line, and from the immense tract of country towards the Pacific, now forming a dozen flourishing states, the Indians have disappeared, and are now gathered in the far West, where, for a half century, perhaps, there will be no further demand of possession by the whites. Though having but little faith in the capacity or disposition of the red man to become civilized, our sympathies abide with him in the large hunting grounds, to which his title is no longer precarious.

Art. IV.—NATCHITOCHES AND THE NORTH-WESTERN REGION OF LOUISIANA.

SINCE the pecuniary reverses and distress in Mississippi, occasioned by the credit, banking and bonding system, and all classes on these subjects, the town of Natchitoches has acquired much notoriety, as the point that most unfortunate debtors seek in their flight to the land of strangers. If the story of many that hurry through its streets could be told, how heart-rending would be the details! What vicissitudes! What disappointments! What dreams of happiness broken up, and, by the monster—DEBT. Where could the philosopher or novelist find a better position than in its venerable streets, witnessing, day by day, trains of fugitives, as melancholy as funeral processions! But it is not of these, but of the antiquities of the town, we intended to speak.

St. Denis,* a follower of Crozat, passed from the French colony of Mobile, to the Rio Grande, in 1712. His apparent object was to open a traffic with the people of New-Spain, but his real design was to explore the Spanish territories, and extend the French dominions therein. St. Denis settled several Frenchmen at the point where Natchitoches now stands, which was then the chief town of the Natchitoches Indians. In 1717, the Governor of Mobile sent a captain with a band of soldiers to garrison the place. As soon as the Viceroy of Mexico, the Duke de Linares, heard of these movements, he despatched troops and missionaries into Texas; and on the 21st May, 1717, Alonzo de Leon notified him, that he had constructed a fort called San Miguel de los Adaes, within five leagues of the French post. Wherever a Frenchman settled, a Spaniard immediately followed. The jealousy of the Spanish government is strongly illustrated by an incident that occurred in 1642. The old fort at Natchitoches stood on the bank of the river.† It was inundated and endangered by the greatest flood ever known there, before or since. The French commandant obtained leave from Don Manuel Sandoval, the Spanish Governor of Adaes, to move it a musket-shot farther back. The Viceroy of Mexico, disapproving of this concession, though granted under such peculiar circumstances, despatched Colonel D. Brito to Adaes,‡ to supersede Sandoval, and to send him under guard to Mexico, where he was court martialed and dismissed the service. The Spanish Governor afterwards received orders to

* "St. Denis" street is the principal business street in Natchitoches.

† The first French fort in Natchitoches was situated immediately on the bank of Red River, below Bayou Maier, and was removed in the year 1721 to the high ground, about one hundred yards west of its former site, where the old cemetery now is, and where vestiges of the old fort can yet be seen.

‡ An Indian name, generally written "Adayes," situated about fifteen miles west of Natchitoches.

drive the French from both Natchitoches and Natchez, and advance with his forces to execute the order; but the French commandant at the former place, either by bribery or that adroit diplomacy for which his nation is distinguished, induced the Governor to suspend his march until the two courts could be heard from, and in the interim to consider the *Arroga Hondo*,* midway between Natchitoches and Adaes, as the line of demarcation, and so it remained until 1762, when Louisiana was ceded to Spain, by whom it was re-ceded to France some years afterwards, and, as our readers know, sold by Bonaparte to the United States.

The mission of Adaes grew to be a village of considerable importance, having a population made up of veterans from old Spain, Mexican, and the mongrel race of Indian and African blood, which constituted so peculiar a feature in the settlements made by the French and Spaniards on the continent. In 1805, it was visited by the Bishop of the new kingdom of Leon, Don Feliciano Mariro, who celebrated high mass, christened two hundred children, and consecrated a graveyard. But the town has now almost disappeared, and scarcely supports a solitary priest. Three years ago, however, the straggling village could still boast some bright-eyed senoras, with just enough of Castilian blood to give that *hauteur* of manner, which on very, very beautiful women, sits gracefully enough—and few Spanish ladies are not beautiful—

* * * * "pale,
 Their dark eyes flashing through their tears,
 Like skies that rain and lighten; as a veil,
 Waved and o'ershading the rich cheek, appears
 The streaming hair; the black curls strive, but fail
 To hide the glossy shoulder which uprears,
 Its snow through all: the soft lips lie apart,
 And louder than their breathing, beats the heart."

Natchitoches itself has seen great vicissitudes, and in its chronicles are hidden many a legend of love, heroism and romance, political intrigue and frontier adventure, dating back to the period when the lilies of France first waved over it. In 1806, the Spaniards under Cordero crossed the Sabine and marched to Adaes, the Spanish General, Herrera, and the Captain General, Salcedo, avowing a determination to enforce their jurisdiction to the west bank of the Mississippi. Great excitement prevailed in the territory of Orleans and in this vicinity. On the 8th May, Maj. Gen. Wilkinson ordered Col. Cushing to descend the Mississippi with the 1st regiment United States infantry from St. Louis, and repair forthwith to Natchitoches. He likewise ordered Lieut. Col. Kingsbury to March with the regular companies from Fort Adams, and he made a requisition on the governors of the two Territories, which was promptly complied with. A gallant body of infantry and dragoons marched from this city, a few only of whom now survive. Gen. Wilkinson concluded his order to Col. Cushing with these burning words, which we extract from the manuscript now before us:

* Should be written "Arroyo Hondo," signifying Deep Creek.

"Learn, with all possible precision, the force, composition, and station of the troops opposed to you; be yourselves prepared for combat; and, if a conflict must ensue, having previously animated your men by a strong exhortation, and sworn your officers in their presence to fall or conquer, make your onset with the bayonet; and your own glory, the honor of your arms, and the integrity of the nation, will be insured."

In the meantime, the Spaniards fell back to the Bayou Pierre,* where they fortified themselves. At this juncture, the Major General reached Natchitoches, and the troops from the Mississippi Territory, and about four hundred Louisiana militia, were eagerly pressing on, expecting to attack the Spaniards, and then to plant the American Eagle on the banks of the Rio Grande. On the 27th September, the Spaniards, for a reason never yet satisfactorily explained, abandoned their entrenchments on the Bayou Pierre, and on the 30th, took up a strong position on the west bank of the Sabine, near what is now known as Gaines' Ferry. Gen. Wilkinson's movements appear dilatory, but it must be remembered that his antagonist had a vast superiority of force, and the ancient lustre of their arms had never been dimmed by the Anglo-Saxon sword. On the 28th October, Gen. Wilkinson issued, from the Camp La Piedra, 26 miles west of Natchitoches, an order, which seemed to indicate the expectation of a general and *immediate* attack. But no battle was ever fought; the Mississippi troops were ordered back, chagrined and disappointed; flags of truce were exchanged, and negotiations took place, which resulted, on the one hand, in the withdrawal of the Spanish army, and on the other, in imputations on the honor of the American General. We will, at a future day, be able to produce new testimony on this point, in endeavoring to place before the country a full developement of the designs and connections of Aaron Burr. It was at Natchitoches, while collecting forces for his march to the Sabine, that Gen. Wilkinson received, on the 8th October, the celebrated letter from Col. Burr, in cipher, by the hands of Mr. Swartwout, since become so notorious in New-York.

The old town remained comparatively quiet after this, until 1810-'11, when the revolutionary spirit, which finally eventuated so gloriously in the establishment of the Texian Republic, first began to agitate its streets and coffee-houses. The expedition of Gen. Toledo, its first success and disastrous termination, is well remembered, but belongs rather to the history of Texas. In 1811-'12, large parties of adventurers assembled between the Arroya Hondo and the Sabine, (then called the neutral ground;) many of them were from this vicinity, but they were dispersed by the United States military authorities at Natchitoches, and their huts burned down. From similar materials, and animated by a similar spirit, was formed

* Now in the parish of De Soto, about sixty miles north-west of Natchitoches. The last Spanish Governor of the post of Bayou Pierre was Don Manuel de Soto, who has two grandsons, Remy and Sinon, now residing there.

the army that triumphed on the ever memorable field of San Jacinto.

Thus it will be seen, that in point of age, this venerable town outranks New-Orleans. In historic interest, it is scarcely inferior. Far buried in the depths of the richest fluvial region on the continent, it was visited by the boldest and earliest adventurers of the new world, and fixed upon by rival nations as a point not only of traffic, but of empire. Numerous and powerful tribes, of a mysterious and melancholy race, once surrounded it, whose hostility was soothed, and whose subtlety baffled, for a long term of years, by the inimitable address of a few Frenchmen—habitually as courteous in a forest lodge as in the saloons of Paris. That these traditions and reminiscences have not all been lost, we shall one day show. That many things connected with the history of the place and with the aborigines of Red River, whole nations of whom are now extinct, have been preserved, we have reason to believe. At a very early day, two brothers, of great enterprise and liberal attainments, settled in the west. They were the friends and correspondents of Mr. Jefferson. We have, ourselves, several long and interesting letters addressed by them to a very near relative of ours, now no more. One of them was, for many years, Indian Agent on the confines of the Missouri, and knew intimately every tribe between the Salt plains on the head waters of the Arkansas and Red rivers, and the great lakes of the north. The other, Dr. Sibley,* lived at Natchitoches, and was more familiar with the early history of Louisiana and New Spain than any man living. A few years ago we were arranging to visit him, when the intelligence reached us that his well-spent and honored pilgrimage was over. We hope, however, that he left memorials behind, that will one day be given to the public.

Art. V.—A PROFESSORSHIP OF COMMERCE.

L'ignorance des negocians vient, de ce que dans leur commencement ils manquent ils d'instruction, n'ayans pas fait leur apprentissage chez d'habiles marchands, qui ayent toutes les qualitez requises pour bien montrer le commerce. Il est impossible qu'un negociant, réussisse dans prises, s'il ne sçait parfaitement sa profession.—DE SAVARY.

THE new university which, by the munificence of the State of Louisiana, is established in the city of New-Orleans, has, we believe, been the first institution in modern times, and certainly in our own country, to perceive the importance of elevating the mercantile classes to the same rank as the learned professions, by especially endowing a chair to be devoted forever to the propagation of mercantile knowledge.

* Dr. John Sibley died in the latter part of the year 1833, then more than eighty years of age. His son, Dr. Henry Sibley, of the Parish of Rapides, is now in possession of his valuable papers and manuscripts.

In this there should be found by our citizens something of gratulation; and there can be little question, in the progress of time the most abundant harvest of good will be realized.

That a merchant should have taken the lead and direction in this matter, (we allude to Maunsel White, Esq.,) was natural enough; and that a community, so purely commercial in its character as ours, should have sustained the movement, was equally to be expected. We say purely commercial, for, by reference to the returns of the census in 1840, it will be found that 1 in every 41 persons in the State of Louisiana are employed in this pursuit, and in the city of New-Orleans 1 in every 13! a much higher average than in any other state or city in the Union. Indeed, Baltimore shows but 1 in 51, Charleston 1 in 43, Boston 1 in 44, Philadelphia 1 in 29, and New-York 1 in 27!

We have taken great pleasure, from time to time, in the pages of our Review, in calling the public attention to this matter; and having now a little time and space at our disposal, will continue the subject.

It is about eighty years since Malachy Postlethwayt, in one of the chapters of his immense and most learned *Universal Dictionary of Commerce*, advocated the establishment of a Mercantile College in Great Britain; and suggested some thoughts for its organization. His views were not adopted, as we believe, to the great detriment of the commercial classes. Nevertheless, it will be proper to make some references to his plan.

Without an acquaintance, says Mr. Postlethwayt, in the produce and manufactures of the commercial world, and in the laws of our own and foreign countries in relation to general trade; without abilities to obtain the best intelligence, in order to strike the critical time when and where, exportation or importation from nation to nation, drawing, remitting, and negotiating foreign bills, invite to the best advantage; without knowledge of the duties, imposts, subsidies, drawbacks, bounties, and all other charges and allowances at home and abroad, to which trade is subject, it is impossible that any previous calculation can be made, whether an adventure will turn to account or not.

To the ignorant, commerce is but a game of chance, where the odds are against the player. But to the accomplished merchant it is a science where skill can scarce fail of its reward; and while the one is wandering about on a pathless ocean without a compass, and depends on the winds and tides to carry him into port, the other goes steadily forward, in a beaten track, which leads him directly, if no extraordinary accident intervenes, to wealth and honor. Such, indeed, is the strength of natural discernment in some, and such sometimes the uncommon attention to business of others, that they make little difficulty in breaking through every obstacle to knowledge, if they obtain but a glimmering light. The case of the generality is far different.

Our author now refers to several particulars which he would have introduced into his college:

The most concise and practical methods of converting sterling money into the monies of exchange throughout the world ; the intrinsic value of foreign coins, &c. ; a comparison of the foreign weights and measures ; the business and duties of the custom-house ; tariffs, imposts, &c., in all countries, &c. &c.

In regard to the preparation of letters of trade, as he calls them, he observes, that an eminent British merchant declared, that his being capable of corresponding in a manner something superior to the generality, was the means of getting him a very good estate from a very small beginning ; this talent having brought him a very large commission business.

Though every merchant should not be his own book-keeper, yet our author argues, his acquaintance with the subject should, nevertheless, be ample. It is justly proverbial among the Dutch, that the man who fails did not understand how to keep his accounts ; and it may be truly said, that a merchant without that skill is in as bad a situation as is the mariner on the wide ocean, without a chart or compass whereby to direct his course.

The next step is to give the young merchant a knowledge of the trade and commerce of the world.

1. Our national produce and manufacture, being more than our consumption, a part is exported, and in return, foreign goods or bullion, or both, are brought home.

2. Selling the goods in one port, and loading there to sell at another, whereby a larger profit is made than if the goods exported had been carried directly thither.

3. Bringing away the produce and manufactures of other countries from whence and when they are cheap, to supply countries when and where they are dear.

4. Bringing home the produce of other countries and exporting the same in manufactures.

5. Freight and hiring out shipping to various parts of the world.

No employment requires a more ready use of the principal modern languages, than the mercatorial. A collegiate institution would be judged materially deficient, if destitute of professors to train up those students properly therein ; wherefore, for whatever branch of trade the young merchant may be intended, he should, through the course of this education, be able to obtain a knowledge either of the French language or the Italian, the Spanish, the Portuguese, or even the Dutch, high or low ; and, indeed, a facility of writing in several or all of them is necessary for the general foreign merchant, &c.

Mr. Postlethwayt urges then a knowledge of geography, navigation, mathematics, &c. ; the municipal and mercantile law of the country ; the general principles of the laws and treaties of nations ; and above all, the finances of his own and other countries.

A few references to some of the most influential and useful merchants of other days, will conclude our hasty sketch.

At the period of the successes of the Duke of Marlborough over

the French, Charles Coke, a merchant, made so clear a defence of the British trade at the bar of the House of Lords and Commons, that he was afterwards chosen a member and knighted. Sir Theodore Janssen, also a merchant, distinguished himself at the same time.

Charles V. of Germany, reduced to great distresses by the expedition of Tunis, experienced a powerful succor in money, of the Fuggurs, a single family of merchants. These merchants requested the Emperor one day to do them the honor of regaling in their house. After the entertainment they burnt faggots of cinnamon in the hall, enveloped with the bonds they had received from his majesty.

The merchants of St. Malo, in the distresses of France, laid down thirty-two millions in gold at the foot of the throne, for the purpose of carrying on the war.

Sir Thomas Gresham, a merchant, founded that magnificent institution, the Royal Exchange of London. The counsels of this eminent man were of the utmost importance to the reigns of King Edward, Queen Mary and Elizabeth. He became known as the Royal merchant.

Sir Thomas Sutton rendered the most signal services to the nation in retarding, by his address, the sailing of the Spanish Armada one whole year.

And, finally : the merits of persons of distinguished character in trade, cannot in general be measured but by those who are well acquainted with their trading negotiations. As they pass through life without much eclat, the world is little acquainted with their important services and utility to the state, whilst the histories of men in great public capacities, are transmitted to posterity with all the pomp and magnificence of representation. Yet, certainly that is the more profitable admonition, which is drawn from the eminent virtues of men who live in a sphere nearer levelled to the common reach, than that which is derived from the splendid portrait of the victories and transactions of great statesmen and commanders, which serve for the imitation of few, and make rather for the ostentation than the true instruction of human life. It is from the practice and example of persons from the private condition, that we are more naturally taught to excel in our private capacities ; and had we the genuine histories of many eminent merchants, giving a lively idea of their rise and progress in business, and of the important service they have been to their respective governments, they would naturally incite the leading part of the nation to emulate their accomplishments, and this would prove a more effectual means to produce a race of skilful British traders than romantic narratives of a race of heroes !*

* We have, in a large portion of this paper, given the language of Mr. Postlethwayt. See *Commercial Review*, Vol. III., IV. and V. for our own thoughts upon all these matters.

Art. VI.—SUGAR MANUFACTURE.

THE inestimable work of Dr. Evans, of London, issued a few months since from the press, having not been re-published in our country, though of the greatest importance to sugar producers throughout the southern states, we have concluded to present it in parts, for the benefit of all who may, in any way, be interested in the sugar industry. Various applications have been made to us by the most practical and scientific planters, to undertake this publication, and we consent to do it, in the full assurance that no more signal service could be rendered to the community. The work is not voluminous; and the reader will already have some general knowledge of it, from the references made by us in the numbers of the Review for October and November, 1847.

CHAP. I.—PLANTS, THEIR MODE OF GROWTH AND DEVELOPMENT.—
PROXIMATE VEGETABLE PRINCIPLES.—NON-AZOTIZED.—AZOTIZED.
—CATALYSSIS.—SALTS.

To prosecute with success any branch of art or manufacture, a knowledge of the principles on which the art or manufacture is based is indispensable. It will, I think, be admitted, that of two persons pursuing the same industrial occupation, the one who brings to his assistance an acquaintance with the laws, by the operation of which the effects sought to be obtained are governed, will possess advantages over the other, and that his efforts will present a greater chance of success.

The object of the sugar-maker is that of separating from *cane-juice*, a fluid composed of a great variety of substances, one of its components, *sugar*, in the greatest abundance and most marketable form. This operation is essentially a chemical one; and although it may not require that the person performing it should be a chemist in the full sense of the word, yet some acquaintance with that science would prove beneficial to him in many respects.

It is owing to the cultivation of the beet-root, and the art of extracting sugar from its juices having fallen immediately under the observation of the chemists of Europe, and having, consequently, received all the assistance that science could bestow, that that branch of industry has made, within a few years, such a great and rapid development; whereas, on the other hand, it is chiefly from the want of such aid that the sister art in the colonies remains to this day almost in its primitive state. Far removed from the sphere of European science, the planter cannot avail himself of the advantages of its immediate assistance at any moment that he may require it; he must trust exclusively to himself and his own resources in every emergency that may arise; therefore, an adequate knowledge of his profession is even more necessary to him than to those who follow a corresponding occupation in Europe.

That the reader may more clearly comprehend the principles on which the manufacture of sugar is based, I shall lay before him a slight sketch of a few of the *chemical and physiological* facts from which they have been deduced. To enter as fully as I could desire upon a subject so interesting, would require a space far beyond the limits of a work like the present: I must, therefore, refer those who are desirous of prosecuting it to other sources of information.

The more perfectly organized vegetables consist essentially of three parts—the root, the stem, and the leaves. By the root the plant is fixed in the soil; whilst its stem, branches, and leaves are expanded in the atmosphere. The organs which enter into the formation of the stem are the *cellular tissue*, the *vessels*, the *woody fibre*, and the *bark*; but they are found arranged in a different manner in the two subdivisions of the phanerogamiæ, or flowery plants. In *exogens* these parts are separated by distinct lines of demarcation. The cellular tissue is in the centre, in the shape of the pith, and in the medullary rays, which, diverging from the former, run towards the circumference. Around the pith are placed the vessels and woody tissue in concentric circles. These are surrounded by the bark which is very distinguishable and easily separated. In the *endogens* the cellular tissue is diffused through the entire stem, the vessels and woody fibre being dispersed irregularly through it; and the bark, instead of being slightly attached to the parts within it, can be with difficulty distinguished, owing to its being gradually blended with them.

The roots as they leave the lower part of the stem present a similar structure to the stem itself, but towards their extremities they consist merely of bundles of vessels surrounded by white, soft, and spongy cellular tissue. It is by these spongy extremities that the liquid and gaseous matters enter into or escape from the interior of the root.

The branches, when they exist, are mere expansions of the stem; and the leaves may be considered as a still further extension of these parts, for the vessels and woody fibre are continued into them. Interspersed through the leaf and between the ramifications of its fibres is a cellular tissue and a green colouring matter, called *chlorophylle*.

It is obvious that a plant must receive its nourishment either from the soil in which it is fixed by its root, from the atmosphere by which its stem, branches, and leaves are surrounded, or from both sources. Numerous experiments have established that the latter is the case.

All soils consist essentially of inorganic salts, some of which are soluble, others insoluble, in water; variable proportions of organic matters; and of water, holding in solution a little of the former and certain gases, particularly carbonic acid and ammonia, which result from the decomposition of the latter. Carbonic acid is composed of the two elements, *carbon* and *oxygen*, and ammonia of the two elements, *hydrogen* and *nitrogen*.

The atmosphere consists of a mechanical mixture of nitrogen, oxygen and carbonic acid, in the proportion of 75.55 parts by weight

of the first, 23.32 parts of the second, and 0.1 part of the last in 100. To these is added a variable quantity of watery vapour.

If these be the only sources whence vegetables can obtain their nourishment, it follows that whatever be the substance produced by the vital processes going on in plants, its chemical composition must consist of a combination of one of the four elements, oxygen, hydrogen, nitrogen, and carbon.

The water holding some of the fore-mentioned substances in solution is absorbed from the soil by the spongy extremities of the root. Thus combined, it constitutes what is called the crude sap, which is ultimately carried by the vessels of the stem to the leaves, where it undergoes a great change. In the first place, a large portion of it is eliminated by a process called *exhalation*, and which resembles that of perspiration in man. Secondly, the carbonic acid is decomposed, the oxygen being set free and evolved into the atmosphere, while the carbon remains; and, lastly, a quantity of carbonic acid is likewise absorbed from the surrounding atmosphere, which is likewise decomposed in a similar manner.

These processes are very much expedited by solar light and heat. During night the evolution of oxygen by the plant ceases—indeed, the reverse takes place, for it now emits carbonic acid and absorbs oxygen. Still, as a general rule, the quantity of carbonic acid given off during night is far from being equal to that which is absorbed during the day.

The sap having thus been deprived of a great portion of its water, and its carbonic acid having been converted into carbon, has necessarily undergone a great chemical change; and being now fitted for the purposes of nutrition, it commences its descent through the stem.

Besides the power of absorbing fluids and gases, the root possesses the faculty of separating from the sap certain excrementitious substances not essential, probably injurious, to its nutrient qualities. From this cause soils are often impregnated with matters excreted by one kind of plant which may materially affect others which have been subsequently grown upon it.

It is this faculty that vegetables possess of extracting their nourishment from inorganic matter, that constitutes the great characteristic distinction between them and animals. Plants may, therefore, be considered as the great purveyors of food for the whole animal creation, every member of which, either directly or indirectly, depending upon them exclusively for its supply.

If what I have stated be true, animals and vegetables must necessarily be composed of the same ultimate elements, and such, indeed, is found to be the case; and in the great operations of nature, each of these two classes of created beings mutually provides sustenance for each other.

All organic substances, that is, all substances which owe their origin to vital action, whether obtained from the animal or vegetable kingdom, are composed of four elementary bodies only, namely, oxygen, hydrogen, carbon, and azote or nitrogen; two others only,

sulphur and phosphorus, being occasionally associated with some of their compounds.

This paucity of ultimate elements is compensated by the wonderful property which the four first mentioned possess of forming with each other almost innumerable combinations. We see the result of these combinations hourly in all the various products of the organic world; in that incomprehensible centre of human thought and intellect, the brain of man; in the structure of the most simple cell which constitutes the earliest rudiment of vital tissue; in the hardest timber, or in the soft and fragile mould and mildew. Now we view them in the form of chrystal; at another time as a powerful acid; again as a bland and liquid mucilage, or as the most intense of the known poisons.

The affinities which bind these elements together in all such compounds are weak and easily disturbed when the force by which they were originally produced has ceased to exist, and the laws of inorganic matter have come into play. The carbon and oxygen then have a tendency to combine and form carbonic acid, and hydrogen and nitrogen to form ammonia.

All the proximate principles which enter into the structure of a plant are formed by a blending together of these elementary bodies in various proportions; but as some of them contain nitrogen, and others do not, they are divided accordingly into the non-azotized and azotized proximate principles.

The non-azotized proximate principles of vegetables are very numerous. They are subdivided into those in which the carbon is united to the oxygen and hydrogen, in the proportion of each necessary to form water; and into those in which this proportion of the two latter elements is not observed. Of the former, those which offer the greatest interest to the planter are the following: *dextrine*, *starch*, *cellulose* or cellular tissue, *lignin* or woody fibre, the various gums, *mucilage*, and *sugar* of different kinds.

Dextrine is an essential component of the sap of all plants. As it possesses the same chemical composition as starch and gum, and many of the physical properties of the latter, it has been frequently confounded with it; but there is one essential difference between the two, that dextrine is capable of being converted into sugar by the action of sulphuric acid or diastase, but gum does not possess this property. Gum, too, may be considered more in the light of an excretion or exudation on the surfaces of plants, than an essential component of their juices.

Dextrine would appear to be the source whence the greater number, if not all, the organs of a plant are formed. We are justified in assuming that the sap contains in solution the substances necessary for the construction of the entire fabric of the vegetable. The only materials whose nature admits of their solution, of all those found in vegetable non-azotized bodies, are dextrine and sugar; but many full-grown plants contain an amount of sugar quite insufficient for the purpose, while dextrine is found in all. There are, however, exceptions; for instance, in the sugar cane the quantity of sugar is

incomparably greater than that of dextrine, particularly when the plant has acquired a certain age. But even in this case it is not improbable that the sugar may be converted into dextrine previously to its ultimate conversion into the other tissues.

The chemical composition of dextrine is comprised in the formula: carbon, 12 atoms; oxygen, 10 atoms; and hydrogen, 10 atoms. As the amounts of the two latter elements are equal to 10 atoms of water, dextrine may be said to be composed of 12 carbon + 10 water.

Starch.—This proximate principle is very generally diffused through the vegetable kingdom. When removed from the plant in which it has been formed, it is found to consist of minute granules, each of which, when viewed under the microscope, has the appearance of a globular or spheroidal cell, and is composed of a substance very analogous to gum, enclosed in a thin, but very firm envelope, to which its consistency is owing. These grains resist the action of many chemical re-agents; but when exposed to a heat of 180° , the pellicle bursts, and its contents are liberated. This is the explanation of the fact, that starch dissolved in hot water can never be restored to its original form. When in this state of solution it is quickly converted into dextrine by the addition of a small quantity of sulphuric acid or diastase, a substance presently to be described. If this mixture be boiled for some time, it gradually acquires a sweet taste, from the conversion of the dextrine into one of the varieties of sugar, *glucose*.

Starch forms a large proportion of the weight of those seeds and roots employed by man as food. Its use in the economy of the plant appears to be as a *dépôt* of nourishment set by for its future exigencies, being admirably adapted to the purpose from its easy conversion into dextrine or sugar. We have an interesting example of these changes in the germination of seeds. The composition of starch is identical with that of dextrine.

Gum.—The variety of gum with which we are best acquainted is the produce of several species of acacia. It exudes from the branches and stems of these trees, and is collected in rounded drops or tears. A substance closely resembling it in every respect results from changes produced by certain re-agents on sugar. Gum, however, that is, the substance known as gum-arabic, cannot be converted into sugar by any means with which we are acquainted. Its composition is the same as that of the before-mentioned proximate principles.

Mucilage is closely allied to gum in many of its properties. It enters into the formation of certain parts of many vegetables, as in linseed, quince seed, in the roots of the mallows, &c., and is the chief constituent of gum-tragacanth. By the addition of sulphuric acid, it is convertible into glucose, or the sugar of fruits. According to Mulder, its composition is, carbon, 24; oxygen, 19; hydrogen, 19; or carbon, 24 + water, 19.

Cellulose.—This proximate principle constitutes the cellular tissue of all plants. Mulder states, that in combination with the in-

crusting matter, which is deposited upon the cells, woody fibre, and vessels, for the purpose of adding to their strength and powers of resistance, it enters into the formation of all these parts. It consists of 24 atoms of carbon, united to 21 atoms of oxygen, and 21 atoms of hydrogen; or carbon, $24 +$ water, 21.

Woody-fibre, obtained from newly-cut wood which has been boiled in successive portions of water and alcohol, according to Dr. Prout, is composed of carbon, hydrogen, and oxygen, in the proportions required to produce the formula: carbon, 12; hydrogen, 8; oxygen, 8; or carbon, $12 +$ water, 8.

Whether woody-fibre or lignine, as it is sometimes called, is really a substance different from cellulose, as the composition of each as given above would lead us to believe, or whether these differences of composition may result from a combination with some other matter in one case which does not exist in the other, it would be difficult to say; nor is it necessary for our purpose to inquire. They are both composed of carbon + water, the ratio which the one bears to the other being the only difference observed.

Sugar.—This substance is not exclusively found in the vegetable kingdom. Two of its varieties are found in excretions from animal bodies, namely, the sugar of milk, and that obtained from the urine of patients laboring under a peculiar disease. A third variety can be obtained from the gelatinous tissues of animals, by the action of sulphuric acid; but as it differs from all the others in containing a small quantity of nitrogen, it is questionable whether it deserves a place in the category of these substances. The principal kinds of sugar found in vegetables are three, namely, cane-sugar, glucose or the sugar of fruits, and mannite or the sugar of manna.

Glucose.—It is to this variety of saccharine substances that most of our well-known fruits owe their sweetness; it is the sweet principle of brewers' wort, and is also found in many other vegetable substances. Although it possesses many of the properties of cane-sugar, it, nevertheless, has other important peculiarities, which render it easily distinguished: first, it is uncrystallisable; secondly, it undergoes the vinous fermentation with great readiness; and, lastly, it has a different composition, consisting of 12 atoms of carbon, 12 of hydrogen, and 12 of oxygen + 2 atoms of water, with which it is combined as with a base, and which it loses when it enters into combination with other bases. As found in nature in the state of a hydrate, or, in other words, combined with its basic water, it consists of carbon $12 +$ water 14.

Mannite.—This is the chief ingredient of manna, an exudation from a species of ash; it is also found in the juices of many other plants, particularly in those of New South Wales, and in certain seaweeds. Cane-sugar, when in a peculiar state of fermentation, is partially converted into it. Mannite crystallises in tufts of slender colorless needles. It cannot be made to undergo the vinous fermentation. According to Dr. Prout, it is composed of carbon, 15 atoms; hydrogen, 16 atoms; and oxygen, 16 atoms; or carbon, $15 +$ water, 16. Whether any of this water is basic is unknown.

Cane Sugar.—It is this variety of sugar that constitutes the substance so well known under this name. As a detailed account of its chemical and physical properties will be given hereafter, it will be sufficient, at present, merely to state its composition, which consists of carbon, 12 atoms; hydrogen, 10 atoms; and oxygen, 10 atoms + 1 atom of water with which it is, in its ordinary condition, always combined as with a base. It may be then said to be composed of carbon, 12 + water, 11.

A glimpse at the following table, in which the names and composition of the proximate principles described above are placed in juxtaposition, will show us the chemical resemblance they bear to each other, and enable us to understand how bodies so dissimilar in their physical properties may be mutually converted into each other from slight disturbing causes :—

Dextrine consists of	carbon	12 +	water	10
Starch	"	12 +	"	10
Gum	"	12 +	"	10
Cellulose	"	24 +	"	21
Lignine	"	12 +	"	8
Mucilages	"	24 +	"	19
Glucose, or sugar of fruits	"	12 +	"	14
Mannite	"	15 +	"	16
Cane sugar	"	12 +	"	11

It is evident the conversion of any one of these bodies into any of the others is effected by the addition or subtraction merely of a small quantity of the elements of water. Thus, by the addition of three atoms of water, cane sugar is converted into glucose, and by a still less amount it may be transformed into dextrine.

These operations are continually going forward during the life of every plant, and many of them are daily performed in the laboratory of the chemist. By the action of heat, saw-dust may be converted into a nutritious substance, capable of undergoing the vinous fermentation, and which has all the chemical properties of starch. Sulphuric acid likewise produces a similar effect upon it.

When starch is exposed in an oven to a temperature of 300°, it is converted into a substance called British gum, which is extensively employed in the arts: it is dextrine. When starch is boiled with sulphuric acid, glucose is produced. This constitutes an extensive manufacture both in France and Germany, the syrup thus prepared being used for the purposes of brewing and distilling.

These are but humble imitations by man of the great transformations effected by nature in the growth and development of all vegetables. To be able to understand more clearly how these wonderful effects are produced, it will be necessary to examine the other proximate principles of plants into the composition of which nitrogen enters as an essential element.

THE AZOTIZED PROXIMATE PRINCIPLES.

Although the mass of vegetable fabrics consists of carbon, hydrogen, and oxygen, there are other principles found in some part or other of all plants which require nitrogen for their formation. As

compared with animals the amount of these substances, it is true, is but small, but their presence is not the less necessary; for some of the most important functions of the vegetable economy could not be performed without them. Nitrogen is found in every plant from the period of its earliest development. The substances into the composition of which this element is essential are very numerous; but those which it more immediately concerns us to examine in this place, from their universal presence throughout the whole of the vegetable creation, are the bodies which, from their resemblance to similar constituents of animals, have been denominated albumen, fibrine, and caseine, the term vegetable being prefixed to each to denote its origin.

There are also two other bodies which exist in plants, but which are not found in animals: the one is a compound of fibrine and a substance called gliadine, and known by the name *gluten*, the other is found only in germinating buds and seeds, in which it exists in considerable abundance; it is merely a modification of one of the above nitrogenised principles, and is called *diastase*. These three first-mentioned nitrogenised principles approximate very closely in their chemical composition; indeed, they are compounds of a base *proteine* united to a very small quantity of either phosphorus or sulphur, or both. *Proteine*, from which soever of these sources it is obtained, always presents the same chemical composition. 100 parts yield—

	From albumen.	From fibrine.	From caseine.
Carbon . . .	55.30 . . .	55.44 . . .	55.36 . . .
Hydrogen . . .	6.94 . . .	6.95 . . .	7.17 . . .
Nitrogen . . .	16.02 . . .	16.05 . . .	15.86 . . .
Oxygen . . .	21.74 . . .	21.56 . . .	21.81 . . .
	<hr/> 100. <hr/>	<hr/> 100. <hr/>	<hr/> 100. <hr/>

These numbers give the empirical formula; carbon, 40; hydrogen, 31; nitrogen, 5; oxygen, 12.

Vegetable albumen.—The substance to which this name has been applied is a compound of *proteine*, containing in 100 parts 0.33 part of phosphorus, and 0.68 part of sulphur. The white of an egg, or the serum of the blood, will give us an idea of this body as it is found in animals. In vegetables it is found in almost all parts of their structure. It occurs largely in their fresh juices, from which it can be thrown down in a solid form by many re-agents.

When exposed to heat, albumen solidifies or coagulates, but the temperature required to produce this effect varies with the amount of the substance dissolved. If the amount equal that contained in the white of an egg, 145° of heat suffices; but if the solution be very dilute, boiling is required, and the albumen then separates in the form of a light white flocculent precipitate. The soluble salts of lead, tin, bismuth, silver, and mercury, form insoluble compounds with albumen, and thus throw it down from its solutions. The diacetate of lead has the power of effecting this entirely. The mineral acids also precipitate it more or less, particularly the sul-

phuric, nitric, and metaphosphoric. Alcohol and infusion of galls produce a similar effect.

In dilute caustic alkali albumen dissolves with facility.

The second variety of proteine compounds found as a proximate principle in vegetables is *fibrine*. This substance, as already stated, exists in a solid form, often combined with gliadine, in the seeds of certain plants. It is also found in solution in their juices, from which it is seen to separate in thin thready fibres, when removed from the influence of the vital action. It contains 0.33 part of phosphorus, and 0.36 part of sulphur in 100.

The third proximate vegetable principle containing nitrogen, is likewise a proteine compound. From its similarity to the characteristic azotised component of milk, it has been denominated *caseine*; and from its existence in considerable abundance in the seeds of leguminous plants generally, as in peas, beans, &c, it is sometimes called legumin. It is also found in solution in most vegetable juices. Its solubility, however, is owing to the presence of an organic acid, or an alkali; for in pure water it is perfectly insoluble. As it exists in milk, it is rendered soluble by a certain amount of free alkali, which is likewise present in this fluid; and on the addition of an acid which can destroy this combination, the caseine, being no longer soluble, is separated in the form of curd. In vegetable juices for the most part this substance is kept fluid by the presence of an acid; the addition of an alkali or alkaline earth, therefore, is required for its precipitation. This explains in some measure the use of lime in the clarification or defecation of cane juice. It also teaches us that the amount of lime required is that which is sufficient, *and no more*, to render the liquid neutral. Heat alone is incapable of coagulating caseine, or precipitating it from its solutions, the only effect produced by its action being the formation of a thin skin or pellicle on the surface of the fluid, as we see in milk when thus treated. Infusion of galls separates it from its solution more or less completely in the form of a brownish precipitate. Diacetate of lead, sulphate and muriate of lime, the hydrates of alumina, and most of the metallic oxides when in a nascent state, produce even more completely this effect. One hundred parts of caseine contain 0.36 part of sulphur. Phosphorus does not appear to enter into its composition.

Diastase.—This name has been given to a nitrogenised substance, which is soluble in water, and which is found in germinating seeds, and buds in the act of development. It is merely a modification of one of the above azotized proximate principles, and can be obtained from any of the before-mentioned sources, by infusing it in cold water. Its use in the economy of the plant has been ascertained by direct experiment. If a little infusion of malt or germinated barley be mixed with a large quantity of thick gelatinous starch, and the whole be maintained at a temperature of 160°, a complete liquefaction takes place in the space of a few minutes. On evaporation a yellowish white powder is obtained, perfectly soluble in water: it is dextrine. If the operation be continued for a few hours, the mix-

ture acquires a sweet taste ; and if it be now evaporated, it will yield glucose, or the sugar of fruits.

From this experiment it is evident that by the action of diastase, starch can be converted into dextrine and one of the varieties of sugar.

Starch, as I have stated, from its insolubility in water, is incapacitated from performing any *active* function in the vegetable economy. It may be considered merely as a store of aliment set by for the future exigencies of the plant. Wherever it is found, [and be it remembered its existence in vegetables is far from being universal] it is sooner or later associated with diastase, under the influence of which it is rendered soluble, in the form of dextrine or sugar, by which means only can it be fitted for the purposes intended by a provident nature. Thus transformed, it becomes a nutritious principle, from which the vessels, woody-fibre, and cellular tissue are produced ; or it may again be deposited in its original form. How wonderful are all these phenomena, and how admirably adapted to the great purposes of creation !

The quantity of diastase requisite to produce these changes is very small, one part of this substance being capable of converting two thousand times its weight of starch into sugar.

The transformations above described are effected in a very different manner from those which are produced by ordinary chemical actions. In the latter case, where decomposition is effected by the interposition of a new agent, it is by the superior attraction of that agent for one of the elements of the former combination. Thus, when sulphuric acid is poured upon carbonate of lime, the carbonic acid is liberated and the sulphuric acid takes its place, forming the new compound, sulphate of lime. But in the changes which we are examining, whether produced by heat, sulphuric acid, or diastase, no such substitution of the disturbing agent occurs ; for neither the heat, nor the acid, nor the diastase are found to have combined with the elements of the substance acted upon. To distinguish this class of actions from those of ordinary chemical affinity, Berzelius has given it the appellation of *catalyssis*. To the planter a clear understanding of them is essential ; for it is in consequence of the molecular changes thus induced in the component elements of the sugar, that nearly all the evils which occur during the process of its manufacture arise.

I have stated that diastase is merely a modification of one of the compounds of proteine above named ; that such is the case seems proved by its possessing a similar composition, and by the identity of their actions. We have seen that diastase has the power of converting starch into dextrine and glucose. If it be kept, while moist, in a warm place for a few days, it loses this property, but has acquired a new one, namely, of converting glucose into lactic acid. When kept for a still longer period, it acquires the properties of the common yeast, and induces in saccharine fluids the vinous fermentation. The albuminous principles of vegetables and animals produce the same effects under similar circumstances. They, moreover, produce others which I have not yet mentioned, but which it is highly impor-

tant should be known to the sugar-maker, and which are interesting as examples of the variety of changes induced by this class of actions.

If a solution of refined cane sugar in water be exposed for a few hours to a temperature approaching 200° , the cane sugar is converted into the sugar of fruits; if the experiment be continued, the solution acquires a dark color, and ultimately a dark brown powder falls, which does not possess sweetness; it is one of the substances which has been described as ulmine and ulmic acid. If glucose be similarly treated, but with the addition of a little lime, a similar precipitate, but of a still darker color, is quickly induced. It is a combination of glucic and melasinic acid with the lime. The lime has acted as an oxidising agent, and converted the glucose into glucic acid, with which it has immediately united, and by the prolonged action of this elevated temperature the glucic acid is converted into melasinic acid. The respective composition of these two bodies will enable us to understand the change which has been produced in the glucose. Glucic acid consists of carbon 8, hydrogen 5, oxygen 5; and melasinic acid of carbon 12, hydrogen 6, oxygen 5.

If a little gluten, obtained from wheat, be placed in contact with a solution of cane sugar, and the mixture be exposed to a moderately high temperature, it becomes viscid and mucilaginous; its sweetness disappears, and on examination gum will be found to have occupied the place of sugar.

If a little curd, or a piece of animal membrane, or a small portion of gluten which has been preserved for a short time, be added to a solution of cane sugar, the latter is converted into mannite or lactic acid.

If the above substances, or blood, or white of egg when the putrefactive decay has fairly commenced, be added to a solution similar to the above, the vinous fermentation will be established, the sugar, however, being previously converted into glucose by the action of these substances. It may be necessary to mention that, whenever this last named change is produced in saccharine liquids, it is invariably accompanied with the development of myriads of minute cryptogamic plants, each individual of which consists of a simple nucleated cell. They are endowed with great fecundity, and continually increase in number until the fermentation is at its height. How far their existence may be essential to the development of this change is a question which has latterly been much agitated, but which it is unnecessary for our purpose to discuss.

The term fermentation has not been confined to this last mentioned metamorphosis of saccharine substances, but has been applied equally to the others produced by the like class of causes. Thus the one in which the sugar is converted into gum, has received the appellation of the *viscous*, and that in which the same body is converted into lactic acid, has been denominated *the lactic acid fermentation*.

THE SALINE OR INORGANIC CONSTITUENTS OF PLANTS.

Although the great bulk of the solid parts of every vegetable is principally built up of organic substances, produced by the operations of the vital principle on the elements which have just been described, yet a small amount of inorganic matter is essential to the perfect structure of every plant.

When, from the application of heat, the organic constituents have been dissipated, the only remains of a plant are found in a small amount of ash. This ash constitutes the inorganic constituents which had entered into the structure of the plant during its life.

From numerous experiments that have been made upon the inorganic constituents of a great variety of vegetable bodies, the following conclusions have been arrived at. I quote the words of Professor Johnston:

"1. That on whatever soil a plant is grown, if it shoots up in a healthy manner and fairly ripens its seed, the quantity and quality of the ash is, generally speaking, nearly the same; and 2. That though grown on the same soil, the quantity and quality of the ash left by no two species of plants is the same; and that the ash differs more widely in these respects, the more remote the natural affinities of the several plants from which it may have been derived. Hence, there is no longer any doubt that the inorganic constituents contained in the ash are really essential parts of the substance of the plant, and that they cannot live a healthy life or perfect all their parts without them." We must likewise conclude, that the root by which these substances are absorbed, must possess the power of selecting those among them which are useful to the economy, and of rejecting others, which are either not necessary, or which might prove injurious. Such a conclusion, however, must be considerably qualified. It is true that of two substances dissolved in water some plants will take up one, and some the other; but there are other substances as highly poisonous to vegetables as their absorption into the system would prove to man or animals, which are taken up by the roots of most plants without any apparent difficulty. So that we cannot allow that vegetables possess these powers of selection, except under very considerable restrictions. Practice, indeed, has demonstrated, and also taken advantage of the knowledge, that some vegetables, at least, when placed under circumstances favorable to their performance of this function, absorb from the soil a quantity of the different kinds of saline matter more than sufficient for their support and nourishment.

The beet-root which has been cultivated in the highly manured grounds of the market-gardener, is very large, and its growth is vigorous; but it is useless to the sugar manufacturer, owing to the great amount of saline substances, particularly, as might be supposed, the nitrate of potash, which it contains.

Turnips which have been raised upon soils manured with the bi-phosphate of lime, always contain a larger amount of the phosphates

than those which have been grown on land less rich in these salts, and are consequently better fitted for the food of young animals.

The sugar-cane also absorbs with great readiness the chlorides of sodium and potassium, and probably the sulphates of these bases likewise. So that it is not uncommon to find the juice obtained from canes which have been grown on soils in which these salts are abundant, to possess very purgative qualities, in consequence of the presences of these substances in much larger quantities than usual. The chloride of sodium (common salt) forms a highly deliquescent compound when combined with sugar; which accounts for the difficulty that attends the conversion of cane juice that contains this salt even in moderate quantity, into sugar that will crystallise freely or "that will bear the sea."

These saline constituents are not equally diffused throughout all parts of the plant. In the sugar cane, for instance, they constitute four per cent. of the weight of the leaves, whereas in the stem their amount generally does not exceed 0.6 per 100.

I trust that I have rendered the foregoing sketch sufficiently intelligible to the reader to enable him, on a careful perusal of it, to understand the transformations which the non-azotised vegetable principles therein named, are liable to undergo from slight disturbing causes. It will be remembered that those changes were described as being molecular ones, or at most, that they were effected by the displacement or addition of an atom or two of water, or rather the elements necessary to form those atoms to the original substance; and that of all agents none more effectually produce them than the contact of one of the azotised principles which have been described. On a knowledge of these changes is based one of the most important principles that are to guide us in the manufacture of sugar.

Art. VII.—THE COTTON TRADE.

ADVANCES OF THE COTTON TRADE AND MANUFACTURE—HOME AND FOREIGN SUPPLIES—STOCKS—DEMANDS—PROSPECTS OF COMING CROP—PRICES, &c.

DURING the past half-century, cotton fabrics have been gradually coming into general use, and are now a staple in all the markets of the world. Consequently the result of the crop of the United States from year to year becomes a subject of anxiety, not merely to the growers at home, but to the mercantile and manufacturing interests of the world; for of the product of all cotton-growing countries combined, more than four-fifths is raised in the United States.

After the disastrous visitation of the caterpillar had reduced the estimated crop of 2,400,000 bales to 1,779,000 in 1846-7, there

were intelligent parties who expressed the belief that, at some future day, an entire crop or even series of crops, might be swept away in this manner, though I believe in this they rather "took counsel of their fears." Assuming it to be a fact that in some parts of the West Indies and Southern Mexico, (as is asserted,) the cotton plant, from the same cause, has nearly become extinct, we are not to infer as a sequence that the same will ever be the case in the United States. The difference of latitude is very great, and the experience of the past would seem to show, that a long continuance of warm and sultry weather is necessary to produce the caterpillar in great numbers, and that a *very late* crop is most liable to injury from them. In 1846 the crop was *late*, in addition to which the worms appeared *earlier than usual*, and consequently had a longer time to propagate and increase, before the recurrence of fall weather had any effect either on themselves or their favorite food.

Without supposing that entire crops can be cut off in the United States, we may not shut our eyes to the fact, that what has once transpired may occur again. It therefore becomes the duty of planters to look the danger in the face, and prepare to meet it. It is very possible that by better attention to scientific agriculture an earlier and surer stand of cotton may be obtained; but we do not believe that it is in the power of man to prevent, to any extent, the multiplication of the caterpillar, so long as they have green cotton to feed upon.

What, then, is the planter's remedy? A general limitation of the growth of cotton, united with an increased production at home of all the necessaries of life—grain, beef, pork, mutton, and wool, and added to this, the manufacture of coarse negro clothing, and in many parts the boiling of molasses from cane grown on the spot.

Planters, as a body, must cease to be dependant on their credit for the means of raising their crops, and increasing beyond propriety their negro force. This course compels them to send their cotton to market often at an unfavorable period. It is true that a large portion of the crop is dependant on uncertain navigation for reaching the place of sale, but it is not the less true that many of the planters residing in those sections of the country do not control their own crops. They either pass through the hands of country merchants, or are consigned to factors who have a large claim on them for advances, and are consequently placed on the market without delay; while at the same time the markets are glutted by the supplies coming down with the simultaneous rising of the interior waters. Little or no pains are taken to keep back for the time that portion of the crop that may be sent forward at any moment.

Hitherto production has been greatly in advance of consumption, and consequently the aggregate value of the crop has been diminished materially. In whatever light we look at this over production, it is adverse to the interests of the planting community.

The aggregate number of bales raised in all countries for 5 years, commencing with the crop of 1842-3, was 12,868,000, while the consumption of the world, as far as ascertained, was only 12,615,000 bales for the same period, and which embraces the three small crops

of 1845-6-7. Thus the production exceeded consumption 253,000 bales; added to which, the stock on hand when the crop of 1842 came into market of 650,000, would make the stock on hand at all points, at the close of 1847, about 900,000 bales.

The annexed table exhibits the crops of the United States for 6 years (estimating 1847-8 at 2,260,000, with the average price in New-Orleans, through each season, from middling to fair qualities :

1842-'43	-	2,379,000 bales, average price in New-Orleans,	6½
1843-'44	-	2,030,500 "	8
1844-'45	-	2,394,500 "	6½
1845-'46	-	2,100,500 "	7½
1846-'47	-	1,778,600 "	10½
1847-'48	-	2,260,000 "	7½

Assuming, for the sake of illustration, that the above would exhibit the average value of the whole crop, and that the average bale weighs 425lbs., it will be seen that while the large crop of 1842-'43 realized \$56,873,000, the small crop of 1846-'47 brought \$78,320,000, showing the relative influence of excessive and short supply in the aggregate value of the crop.

To the deep indebtedness of the planting community is owing, in part, the extremely low price to which cotton went down at one period during the past spring in the New-Orleans market; and so great was the difficulty of realizing money even on cotton with so heavy a stock pressing on the market, without a corresponding demand abroad, that extensive shipments were made on very limited advances; and in turn the Liverpool market has undergone a similar pressure from the anxiety of holders to realize their advances on the shipments made at New-Orleans.

Let us look at the past history of the trade. In 1785 the first bale of cotton was imported into Liverpool, and for ten years thereafter the quantity consumed was very trifling. The following table will show the average imports per annum in periods of 5 years, of cotton wool from all countries into the port of Liverpool for 50 years, commencing with 1793 :

1793 to 1797	- - 48,000	- - - - 1823 to 1827	- - 595,000
1798 to 1802	- - 76,500	- - - - 1828 to 1832	- - 727,000
1803 to 1807	- - 163,000	- - - - 1833 to 1837	- - 923,000
1808 to 1812	- - 200,000	- - - - 1838 to 1842	- - 1,170,000
1813 to 1817	- - 237,000	- - - - 1843 to 1847	- - 1,334,000
1818 to 1822	- - 423,000		

This shows a steadily progressive increase, which, however, cannot continue in the same ratio hereafter, though it is highly probable that many years cannot elapse ere the production will be met by consumption. Nothing will tend more to bring about this than the permanent settlement of European governments on a liberal basis.

Great Britain has hitherto been the main seat of cotton manufactures, but continental Europe and the United States are rapidly coming in for their full share, and must ere long take the supremacy out of her hands.

The consumption of France during the past five years has not varied materially, averaging about 330,000 bales per annum. In the United States during the same period it has increased from 325,000 bales in 1843 to 425,000 in 1847. It must be borne in mind, however, that a large amount of cotton is manufactured in the Southern and Western States that never reaches any seaport, and consequently, does not enter into the tables of either consumption or supply. Though the tables of the current year may probably show that 450,000 bales have been spun up in this country, yet the actual amount will no doubt exceed half a million. It is stated that the mills west of the Alleghany mountains and above the mouth of the Ohio receiving their supply by the latter stream, will consume this year, 40,000 bales. A large part of this is purchased in Nashville, Memphis, Louisville and Cincinnati. The writer is acquainted with a respectable gentleman who purchases largely for mills in Pennsylvania, who formerly bought in New-Orleans, but who has this year operated chiefly in Memphis, and who expects to do so hereafter.

In Germany there is a rapid advance going on in the extension of cotton manufactures. The imports into the Zoll Verein were double as great in 1845 as in 1841, of raw cotton, while the importations of twist from Great Britain during the same period increased in nearly as great a ratio. Instead of importing English twist, ere long the raw material from the United States will take its place, and the twist be made at home.

In the Austrian port of Trieste, the imports of raw cotton of all countries for five years ending with 1835, was 356,000 bales, of which 51,000 were American; in five years ending with 1845, the total imports were 494,000, of which 189,000 were American. Genoa is now a powerful competitor with Trieste for the cotton trade of Northern Italy.

The production of other countries than the United States averaged, for several years, 470,000 bales; in 1845-'46 it was only 375,000, and last year was not supposed to exceed 400,000. Presuming this last to be the fact, the following tables show the production and consumption of the world for five years, the quantity taken into use on the continent of Europe in 1847 being estimated at 630,000.

PRODUCTION.

	1842-3.	1843-4.	1844-5.	1845-6.	1846-7.
United States, - - -	2,379,000	2,030,500	2,394,500	2,100,500	1,778,600
Other countries, - - -	470,000	470,000	470,000	375,000	400,000
	<u>2,849,000</u>	<u>2,500,500</u>	<u>2,864,500</u>	<u>2,475,500</u>	<u>2,178,600</u>

CONSUMPTION.

	1843.	1844.	1845.	1846.	1847.
Great Britain, - - -	1,383,000	1,406,000	1,580,000	1,593,000	1,158,000
Con. of Europe, - - -	743,000	686,000	775,000	750,000	630,000
United States, - - -	325,000	347,000	389,000	422,000	428,000
	<u>2,451,000</u>	<u>2,439,000</u>	<u>2,744,000</u>	<u>2,765,000</u>	<u>2,216,000</u>

It is a fact of some importance, though not generally known, that

the quantity of cotton wool imported into Great Britain from other sources than the United States, is not equal to the amount manufactured and sent back to the same countries in cotton fabrics, while the quantity received in other parts of Europe, excepting from the United States, is very limited, all the East India cotton going either to England or China. Indeed, shipments of cotton have already been made from hence to China. The idea of raising cotton advantageously in India for English consumption, has lately been declared futile by a Committee of the House of Commons; and there is no fear of the growth of any other country coming in competition with that of the United States, until prices shall have become permanently very much higher than at present.

The following exhibits the crops of 10 years, estimating that of 1847-'8 at 2,260,000, showing the relative supply of the Atlantic states compared with the South-Western, and also the increase of the last 5 years over the preceding to have been a fraction under 12½ per cent. on the Atlantic side, and a little over 15 per cent. at New-Orleans and Mobile. It is manifest that the greatest increase hereafter must be west of the Mississippi river; and it is to be hoped that the government will take efficient measures to improve the unceasingly interrupted navigation of Red River and its numerous tributaries.

	1839-39.	1839-40.	1840-41.	1841-42.	1842-43.	1843-44.	1844-45.	1845-46.	1846-47.	1847-48.
N. Orleans...	575,000	938,700	814,700	727,700	1,060,200	832,200	929,100	1,064,100	714,300	1,185,000
Mobile.....	251,700	445,700	326,700	318,300	481,700	468,000	517,200	422,000	323,500	440,000
	826,700	1,404,400	1,135,400	1,046,000	1,541,900	1,300,200	1,446,300	1,486,100	1,037,800	1,625,000
Florida.....	75,200	136,200	93,500	114,400	161,100	145,600	188,700	141,200	127,900	150,000
Georgia.....	305,100	292,700	149,000	232,300	299,500	255,600	295,400	195,000	242,400	220,000
S. Carolina..	210,200	313,200	227,400	260,200	351,600	304,900	436,400	251,400	350,200	250,000
N. Car.& Virg.	33,400	35,200	28,700	28,700	24,100	23,100	37,700	25,900	20,100	15,000
	523,900	775,300	498,600	635,600	836,300	729,200	948,200	613,500	741,000	635,000
Total Crop..	1,350,600	2,179,700	1,634,000	1,681,600	2,378,200	2,030,400	2,394,500	2,099,600	1,778,800	2,260,000

☞ The Texas receipts are appended to those of New Orleans.

When the current commercial year opened, the prospects as regarded the cotton market were encouraging. It was well-known that the stocks of manufactured goods were very light; the harvests both in Great Britain and on the continent of Europe, had proved abundant, and under the influence of the great reduction in the value of bread-stuffs, it was hoped that the demand for cotton goods would be so extensive as to keep up the price of the raw material, even should the crop prove a large one. Middling cottons opened at 10½ in the New-Orleans market, gradually settling down to 9 c. towards the latter end of October. At this period, the numerous failures in Europe, arising out of losses in grain speculations, chiefly exposing the rottenness of mercantile houses hitherto considered in good standing, with the heavy demand for money to meet railway calls, began to tell heavily on the cotton trade; and prices declined at all points, while the general distrust made exchange negotiations very difficult.

These causes continued to operate, pressing down prices, till at one time in November, middling cottons were sold under 6 c. Fortunately, we were relieved by a better demand than usual for

France and the continent of Europe, and towards spring we were beginning to hope for a better state of things, the wreck having been pretty well cleared away in the mercantile world, when the French Revolution threw Europe into convulsions again, most completely upsetting commercial affairs. This was followed by similar commotions in different parts of Continental Europe, and then by popular outbreaks in Ireland, England, and Scotland. The result has been, that for want of demand for manufactured goods, cotton has gone down in Liverpool to a point almost as low as it ever before touched; and the quotations in the New-Orleans market on the 16th July, were for middling $5\frac{1}{2}$ a $5\frac{5}{8}$; fair 7 a $7\frac{1}{2}$ c.

The stocks are nearly on an average at all points about the same as last year, and business every where dull; a little improvement was, however, manifested in France lately.

The consumption of cotton (as shown by advices up to 16th June of this year) in Great Britain, from 1st January to 16th June inst., was 582,790 bales, against 504,660 for the same period in 1847; though this exhibits some improvement over last year, yet there is no elasticity in the market, and little is manufactured for which there is not an immediate demand.

Any opinions expressed at this time as regards the future would be futile. The most critical period for the growing crop has yet to be passed, and we cannot look for high prices until the European governments shall have settled down upon some permanent basis; any important improvement must first be looked for from this quarter, and consequently every succeeding packet is expected with unusual anxiety.

IMPROVED HUSBANDRY, IMPLEMENTS, &c.

THERE has been within a year or two back established in New-Orleans, an Agricultural Warehouse, more complete than any other in the Southern country, and equal to the best in the Northern States. This establishment is in the charge of R. L. Allen, brother of the Editor of the *American Agriculturist*. One is surprised on examination to discover how numerous and ingenious are the conveniences for assisting the labors of man in his natural and necessary duty of tilling the earth and working its products. We took a few notes during some occasional visits to the establishment, and present them to the reader.

Plows.—Of these the variety is so great as to preclude a description of each kind. From a draught requiring four to six horses, in heavy ground, to a plow easily drawn by one horse or mule, the intermediate styles afford a wide scope for selection. Many are of iron, composed of an admixture of several kinds, which produces a metal of great strength and durability, increasing at least one hundred per cent. more service in those parts so soon worn out in other plows. Of 195 premiums offered by agricultural societies in Massachusetts, New-York and Vermont, for the best plows, the manufacturers of the class to which we refer obtained 153 as the reward to their skill. We noticed the Side Hill or Swivel Plows, of which are five different sizes, so constructed that the mould-board can be instantly changed from one side to the other, which enables the operator to perform the work horizontally upon side hills, going back and forth on the same side, and turning all the furrow-slices with great accuracy, downward.

There are four sizes of the *Sub-soil Plow*, to be used immediately after the team which turns up the surface-soil, and in the same furrow. This is of great advantage to the crops, both in dry and wet land. In the former, the sub-soil being deeply broken up and well pulverized, the moisture is retained much longer than it otherwise would be, and the roots of plants can descend much lower and wider

for their food; while in the latter, the excess of moisture filters below, and is readily carried off. This plow will break and pulverize the soil any required depth to eighteen inches.

The *Three-Share Plow* spreads two feet six inches wide, and is used for plowing in wheat, rye, and other grain, after sowing; and taking so many furrows at a time, it gets over the ground very rapidly. It is also highly useful as a cultivator, doing the work of three small plows with the same force.

The *Paring Plow* is used for paring turf-lands, preparatory to burning. The share is thin and flat, made of wrought iron, steel edged. It has a lock-coulter in the centre, and short coulters on the outside edge of each wing of the share, cutting the turf, as it moves along, into two strips about one foot wide, and as deep as may be required.

Mr. Allen having made himself acquainted with southern soils, and the best modes of culture, has constructed a series of plows expressly for this region, combining the advantages of the best northern models, without being so cumbersome. In addition to those specified, he has various other plows suited to every locality in North and South America, and the West India Islands, among which are steel points and shares, steel and wrought iron mould-boards, and every species of castings for plantation or farming labor.

CULTIVATORS.—Of these are several varieties. The Cultivator is a great labor-saving implement for stirring the earth between the rows of corn and other crops. It is well adapted for mixing manures in the soil, and pulverizing it after plowing. It leaves the soil much lighter, and in better condition to receive the seed than when the harrow only is used. It is useful for covering grain broad-cast, and buries it at a more suitable and uniform depth than the plow, and in one fourth the time; and much more perfectly than the harrow. There are various forms of teeth, some enter and stir the soil deep; others are broad and flat, to skim the surface and cut up the weeds; others narrow, acting as scarifiers,—and all fit the same size and form of mortice. The farmer, by purchasing different forms of teeth, can use them in the same frame-work. The *Universal Cultivator*, which may be easily repaired by blacksmiths, is made to expand from two to five feet.

Langdon's Cultivator is, in reality, a plow with a light, wide, flat share, sharp at the edges, and coulters on the mould-board. It is used for running between the rows of different crops, to cut up the weeds and loosen the soil. It is also an excellent implement for digging potatoes. The shares can be detached and wings added, which converts it into a double mould-board plow. It is recommended only for light soils free from stones.

The *Cotton Sweep Cultivator* is made expressly to take the place of the cotton sweep, besides doing much additional work. It has very sharp teeth so arranged as to cut up all grass and weeds, at the same time finely pulverizing the soil; and can be expanded or contracted to suit any width of row. It works so lightly that one mule can draw it.

The *Hand Cultivator* is made entirely of iron, except the handle, and expands from ten to eighteen inches. It is a very useful implement in garden culture, and is often used in fields. It cuts up and leaves the weeds exposed, and stirs the earth thoroughly. The operator, with his hands behind him, clenches the cross handle, and walks easily forward between the rows, and performs the work better and faster than several men with hoes, leaving the ground well pulverized and the weeds destroyed. This being expeditious, it can often be used to advantage.

ROLLERS.—These implements are fast coming into general use. They crush all sods and lumps that remain on the top of the ground after the harrow has passed, and force down small stones level with the surface. They render the field smooth for the cradle, scythe and rake, press the earth close about the seeds, and secure a more certain and quick germination. Their greatest benefits are realized when used on such light, sandy and porous soils as are not sufficiently compact to hold the roots of plants firmly, and retain suitable moisture. On such lands they are invaluable, and in all cases their use has greatly increased the product. Much benefit is undoubtedly found in compressing the surface of such soils by preventing the escape of those gasses from the manure, so essential to vegetation, and which are so rapidly extracted by the sun and winds. The rollers in highest estimation are made of iron, 13 or 24 inches in diameter, in separate sections, each one foot long, placed on a wrought iron arbor, on which they turn independently of each other;—thus turning without much friction and leaving the ground smooth. They are generally used with three to six sections. If four on

ly are required, shafts may be substituted for the tongue, and drawn by one horse, or both may be used alternately according to the team. The box is attached to receive stones, etc., picked up on the field, and giving weight to the roller as the work may require.

HARROWS.—Of these are many kinds and sizes, from the one horse up to the large four horse harrows. The *Triangular Folding, Scotch and Geddes* are most approved. The latter, in two triangles, is superior to the square, as it draws from one point with a regular, not a straggling motion, and of course is easier for the team. Either part is easily lifted when in motion, to let off any trash that may have collected among the teeth.

Sufficient attention is not paid to harrowing. It is the next most important operation after plowing. The harrow should run from four to six inches deep, cutting up all the lumps, and leaving the ground in a finely pulverized state.

SEED-SOWERS, &c.—These machines are quite ingenious and labor-saving in their contrivance. The *Improved Brush* has been long in use, in this country and in England, and is found to be the only one that plants all the variously formed small seeds rapidly and with precision. It is easily arranged to plant a greater or less quantity as may be required.

Bachelder's Corn-Planter deposits the seed at any distance in drills or otherwise, from a hopper above the beam; and as the horse moves along, the share below opens the furrow; arms moving horizontally drop the corn through a tube conducting it to the bottom of the drill. A triangular iron follows to remove all lumps and stones, and a roller to compress the earth over the seed. The machine requires a small horse to draw it, and with a boy to drive, will plant from ten to twelve acres per day, according to the width of the rows.

The *Horse-Drill* will plant wheat, rye, Indian corn, oats, peas, beans, ruta-bagas, &c., and can be regulated to drop any required quantity on an acre. The drills can be thrown in or out of gear separately, so as to plant a field of any shape without seeding any part twice. They are so arranged as to operate equally well on all kinds of land, hilly and rough, as well as level and smooth. A man with two horses can put in from 10 to 12 acres with wheat in a day; and with one horse he can plant 20 acres with corn per day.

COTTON SEED PLANTER.—Both the corn-planter and horse-drill above described are easily adapted to sowing cotton seed, and can be made to do the work of six or eight hands, and much more perfectly.

HARVESTING IMPLEMENTS, &c.—The *Reaping Machine* can reap fifteen acres of wheat in a day, and will cut the grain as smooth and clean as can be done with a sickle or scythe. It has low wheels, drawn by a pair of horses, and cuts a swath five feet wide, with twenty knives, working horizontally, which require sharpening only once a day. A man sitting on the side of the platform with a rake pushes off the grain as fast as it is cut. A field of oats or barley may be cut as neatly and expeditiously as one of wheat or rye.

Railway Horse Power and Thrasher is adapted to one horse, which, with the aid of two men and a boy, can thrash at the rate of 75 to 100 bushels of wheat, or 100 to 150 bushels of oats in a day.

The *Grain Cradle, Grass, Lawn, Bramble, or Bush Scythes* are implements which admirably answer the purposes intended. They are the most approved in the market, and are made of the best cast and German double-refined steel.

The *Revolving Hay Rake*, with a horse, man and boy, will clean from 15 to 20 acres per day. It can be used to good advantage, even on rough ground.

Rice Thrashers, Fanning Mills, Corn Shellers, Smut Machines, Corn and Cob Crushers, Burr Stone Mills, Rice Hullers, Straw Cutters, Machines for raising water by horse power, &c. We enumerate, at random, a few more of the articles or inventions found in the warehouse of Mr. Allen.

Egg Hatching Machine is constructed of tin or other materials, with the brooding-chamber surrounded by water, warmed to a suitable degree of temperature by a spirit-lamp, which may be constantly kept burning for less than ten cents a day. The apparatus is so simple in its construction and management, that a child can superintend its operation, with two hours' time in a day, and requires no attention during the night, after ten o'clock. It is made of three different sizes, to contain from 200 to 600 eggs at once.

The variety of corn mills in this establishment exceeds any we have before seen, from the little hand steel mill, and such as combine hand and horse power, to the largest sizes of the best French burr stone. Also, corn-shellers equally various,—

there being more than a dozen kinds to shell by hand, and four to shell by horse or steam power, some of the latter being capable of turning out 1500 bushels per day. To these may be added straw cutters of twelve or fifteen styles, working in all kinds of ways, by hand and horse power, yet all efficient in lessening the mastication of the animal, and thereby increasing the value of the fodder, whether corn stalks or shucks, straw or hay.

The large furnace kettle, which is always set and ready for use, in doors or out, is of great convenience and utility, economizing fuel and labor. These are of all sizes.

Having referred to the corn and cob-crushers, we may remark, that it is a vast labor saving machine for the stomach of the animal, and in connexion with the straw-cutter, is capable of saving at least one third of the food, while it augments the working capabilities of the beast. The food must be reduced, ground or divided, before it can be acted upon by the gastric juices of the stomach, and assimilated to the system. Now, a great deal of this may be accomplished by these machines, and to much more advantage than by mastication; and when the animal has received his rations in this prepared form, he more readily digests them, and is sooner refreshed and invigorated for his work.

The Water Ram, a modification of the invention of Montgolfier in the last century, for raising water to any required height, with a fall not exceeding three feet, we conceive to be an instrument of great value for various purposes. We noticed pumps and engines of several descriptions, adapted to almost every conceivable use, all of which are the best suited to some one or more peculiar situations or objects. Also, a variety of Hoes, of domestic manufacture, far superior to any ever imported, and which Mr. Allen informed us, he had made especially for such discriminating planters as can appreciate an article which will pay for itself by extra service in every week's use. They are made, not only in an improved form, but of a fine quality of metal, and will do work much better, faster, and with much more ease to the hand than the common hoe.

The garden implements and tools for shubbery form a beautiful collection. Many are delicate and ingenious, fit for the hands of a lady, uniting amusement with healthful exercise. Spades, shovels, scythes, forks, and every other instrument needed in rural occupations, may be had at Mr. Allen's warehouse.

But we cannot further particularize. We have accomplished our object, and what we deem a duty to our agricultural readers, by calling their attention to the first establishment of this kind ever undertaken south or west of Baltimore, and one probably more varied and complete than can be found elsewhere in the United States. When we reflect that nearly all the agricultural improvements of the present day consist in the superiority of the implements, and the economy and perfection of labor thereby secured, we cannot too earnestly recommend the adoption of such implements as are most likely to attain this result.

That policy is best which brings most reward with less sacrifice to the operator. Of late, the mechanic arts have wonderfully multiplied the comforts and reduced the labor of man. Prejudice against anything new, because it happens to excel old models, is no longer tolerated by the intelligent. There is the same reason why the best tools should be used in producing from the soil, as that the carpenter or other handicraftsman should employ instruments adapted to the work he has to accomplish. We shall conclude our remarks on this subject by a quotation which we consider eminently applicable:

"Furius Cresinus, an emancipated Roman slave, having obtained from his very small estate much larger crops than his more wealthy neighbors from their vast domains, they became so envious that they charged him with employing enchantment to attract into his grounds the produce of their fields. Having been summoned by Spurius Albinus, and being fearful of condemnation, he introduced into the forum, as the tribunes prepared to vote, his robust and well clad family, and his agricultural implements,—his heavy mattocks, his ingeniously constructed plows, and his well-fed oxen, and then exclaimed,—Behold! Roman citizens, my magic; but I am still unable to show you, or to bring into the market place my *studies*, my constant *vigilance*, my *fatiguing labor*. Scarcely had he concluded, when he was absolved by public acclamation.

"It is in enterprise, study, unremitting study, vigilance and industry, more than in money, that the mystery of great crops and successful husbandry consists."

To succeed in this "enchantment" of full crops, let parties within reach of New Orleans call on Mr. Allen, who will cheerfully assist them in the work. His collection cannot fail to interest any visiter,—producing new and enlarged ideas, with increased love of nature. Such is the tendency of all associations connected with rural life.

UNITED STATES COMMERCE AND NAVIGATION.

EXPORTS AND IMPORTS, 1847.

From the late report of the Register of the Treasury, showing the export of articles produced in the United States, we compile a table embracing cotton, rice, flour, Indian corn and meal, sugar and tobacco, in value, and also the total amount of all the exports of domestic produce from July 1, 1846, to June 30, 1847.

	Cotton.	Rice.	Flour.	Corn and Meal	Sugar.	Tobacco.	Tot. Exp.
1. Russia.....	\$523,616	30,205	17	....	....	49,305	626,332
2. Prussia.....	....	43,430	....	....	....	....	182,252
3. Sweden and Norway..	300,277	20,161	3,390	....	....	30,151	391,847
4. Swedish W. Indies...	....	2,278	45,312	12,935	297	6,287	110,062
5. Denmark.....	62,609	115,525	731	....	....	210	198,152
6. Danish W. Indies....	....	10,481	288,784	199,631	3,326	15,851	836,672
7. Hanse Towns.....	1,069,095	424,550	51,029	639	....	1,502,655	4,068,413
8. Hanover.....	....	....	....	....	....	6,469	....
9. Holland.....	195,108	46,598	99,032	1,748	....	661,686	1,885,398
10. Dutch E. Indies.....	....	....	5,931	....	....	69	91,902
11. Dutch W. Indies....	....	5,378	63,096	12,123	89	15,971	217,216
12. Dutch Guiana.....	....	1,956	2,725	....	....	1,297	43,840
13. Belgium.....	1,003,519	149,099	306,697	16,994	....	185,113	2,874,367
14. England.....	34,519,231	1,145,135	11,933,723	8,055,142	1,146	2,558,002	70,223,777
15. Scotland.....	1,277,712	46,390	915,130	382,824	....	112,098	3,645,460
16. Ireland.....	44,322	30,707	2,255,721	8,685,326	....	578	12,297,698
17. Gibraltar.....	6,716	2,620	146,217	2,877	336	144,240	365,360
18. Malta.....	....	....	700	....	....	11,189	25,096
19. British E. Indies....	....	....	15,847	....	1,164	27,223	287,783
20. Cape of Good Hope...	....	....	23,705	....	505	27,307	106,172
21. Mauritius.....	....	....	4,140	196	....	2,887	36,275
22. Australia.....	....	....	....	....	....	11,466	33,289
23. Honduras.....	....	8,862	62,773	2,408	1,424	2,886	261,378
24. British Guiana.....	....	18,036	232,637	48,284	....	9,148	621,903
25. British W. Indies....	7,739	94,553	1,457,552	456,078	847	56,850	3,973,252
26. British Am. Colonies..	17,996	67,017	1,452,986	249,776	22,947	308,229	5,819,667
27. France on the Atlantic	9,937,465	570,952	3,412,522	26,461	....	663,502	17,420,385
28. France on Mediter'n..	443,853	1,918	252,484	967	....	222,730	1,172,146
29. French African Ports.	....	157	1,126	....	....	....	5,491
30. Bourbon.....	....	....	15,236	300	....	4,283	32,557
31. French W. Indies....	284	19,983	160,811	26,307	462	52,664	569,126
32. French Guiana.....	....	1,947	10,060	465	....	3,888	56,287
33. Spain on the Atlantic.	311,704	419	459	1,565	....	365,961	770,748
34. Spain on Mediter'n..	1,014,929	....	....	....	....	98,372	1,188,340
35. Tenerife and oth. Ca- naries.....	....	124	449	294	....	....	15,148
36. Manilla and Philippine Islands.....	....	....	130	....	....	99	32,480
37. Cuba.....	303,551	647,377	296,654	399,441	....	15,255	6,065,617
38. Oth. Span. W. Indies.	....	33,427	103,549	57,078	....	20,095	825,079
39. Portugal.....	....	1,771	11,175	....	....	....	56,893
40. Madeira.....	....	5,153	31,073	25,921	....	9,612	105,031
41. Fayal and oth. Azores.	....	151	2,270	....	....	330	9,466
42. Cape de Verd Islands.	....	787	12,602	....	2,350	8,656	71,084
43. Italy.....	750,567	....	12,177	....	....	227,821	1,056,022
44. Sardinia.....	414,931	....	10,100	....	....	194,795	630,232
45. Sicily.....	28,978	....	....	....	....	....	56,899
46. Trieste and other Aus- trian Ports.....	1,117,159	....	320	....	....	....	1,175,385
47. Turkey, Levant, &c..	....	....	180	....	....	178	61,570
48. Hayti.....	....	22,901	239,996	5,642	19,898	39,668	1,187,017
49. Mexico.....	....	655	29,857	....	627	9,545	209,841
50. Cent'l Repub. of Am..	....	....	3,150	1,350	763	1,947	73,232
51. New Granada.....	....	150	12,019	362	....	90	53,655
52. Venezuela.....	....	7,316	210,197	14,069	49	16,332	571,474
53. Brazil.....	....	96	1,562,979	194	....	23,279	2,566,938
54. Cisalpine.....	....	6,339	88,917	329	3,056	6,810	180,536
55. Argentine Republic...	....	4,611	53,723	....	4,334	299	123,954
56. Chili.....	33,087	10,462	32,411	324	74,164	5,185	1,461,347
57. Peru.....	....	....	8,414	....	....	111	192,978
58. Ecuador.....	....	....	5,340	....	313	....	27,253
59. China.....	....	....	10,668	80	373	9,727	2,708,655
60. W. Indies generally..	....	2,026	27,752	8,036	....	1,438	11,8137
61. S. America generally.	....	1,701	10,567	....	3,236	57	44,427
62. Asia generally.....	....	....	335	....	2,727	1,138	161,679
63. Africa generally.....	....	1,361	134,164	510	4,251	144,331	700,431
64. S. Seas & Pacif. Ocean	41,391	1,161	5,670	....	2,620	5,671	310,187

53,415,848 3,605,896 26,133,811 18,696,546 150,307 7,901,036 150,310,664

Gov't Stores to the Army, from New-York..... 326,800

150,637,464

The report shows \$14,395,212 of Indian corn, and \$4,301,334 of Indian corn meal exported, both which items we have added together in the same column.

To save room, we have also included brown and refined sugars under the same head; of brown, the value exported was \$25,483, and of refined, \$124,824. Tobacco, leaf, \$7,242,086—manufactured, \$658,950, likewise added together.

FOREIGN EXPORTS.

The Register also furnishes a statement of goods, wares, and merchandise, of the growth, produce, and manufacture of foreign countries, exported from the United States from July 1, 1846, to June 30, 1847, with the amount entitled to drawback, amount not entitled to drawback, amount from ware-houses, and the aggregate value. The following is condensed.

	Free.	Ad valorem.	Specific.	Total.
Entitled to drawback.....	....	\$2,224,343	\$909,754	\$3,134,147
Not entitled to drawback.....	\$3,657,251	434,247	38,812	4,130,310
From ware-houses.....	....	698,744	97,544	796,288
	\$3,657,251	\$3,357,384	\$1,046,110	\$8,060,745

FOREIGN IMPORTS.

Two separate tables of goods, wares, and merchandise imported into the United States from July 1, 1846, are prepared in the report, one embracing five months to 30th November, when the tariff of 1842 expired, and the other seven months, thence to June 30, 1847. We have arranged the table below, showing the total value of imports within the first period, and that under the tariff of 1846 within the second period.

	5 months, 1846.	7 months, ad v.	Free.	Total 7 mos.
1 Russia.....	\$561,878	\$360,379	\$2,416	\$362,795
2 Prussia.....	7,608	....	....	....
3 Sweden and Norway..	291,154	322,451	93	322,544
4 Danish West Indies...	184,248	569,378	93,122	662,500
5 Hanse Towns.....	1,557,922	2,662,572	1,691	2,064,263
6 Holland.....	376,576	592,638	278,000	870,633
7 Dutch East Indies....	590,364	79,073	225,445	304,618
8 Dutch West Indies....	195,354	161,075	12,609	173,684
9 Dutch Guiana.....	17,542	39,843	1,970	41,813
10 Belgium.....	314,289	600,126	33,910	634,036
11 England.....	15,578,727	29,715,312	19,876,385	49,591,647
12 Scotland.....	345,472	1,421,230	70,312	1,491,542
13 Ireland.....	27,922	479,431	82,887	562,318
14 Gibraltar.....	8,060	18,909	....	18,909
15 British East Indies....	663,570	917,057	65,830	982,887
16 Cape of Good Hope...	20,871	15,145	25	15,170
17 British Honduras....	63,596	65,305	68,334	133,636
18 British Guiana.....	3,875	2,225	13,025	15,250
19 British West Indies...	349,824	308,319	289,789	598,108
20 British American col..	955,926	732,131	655,870	1,388,001
21 France on the Atlant..	10,172,159	12,280,246	1,446,671	13,726,917
22 France on the Medit...	472,187	529,243	335	529,578
23 French West Indies...	60,571	26,639	64,156	90,795
24 Miquelon & F. fisheries	162	273	....	273
25 French Guiana.....	6,596	33,779	7,400	41,179
26 Spain on the Atlantic..	152,138	92,960	29,610	122,570
27 Spain on the Medit...	397,897	499,738	118,916	618,654
28 Teneriffe and Canaries.	44,503	17,361	....	17,361
29 Manilla & Phil. Islands	65,215	396,695	32,146	428,841
30 Cuba.....	2,837,693	8,928,237	628,937	9,557,174
31 Other Span. W. Indies	269,416	1,841,644	30,869	1,872,513
32 Portugal.....	277,777	3,181	2,372	5,553
33 Madeira.....	95,097	760	....	760
34 Fayal.....	19,964	3,950	10,650	14,600
35 Cape de Verdes.....	120	79	2,200	2,279
36 Italy.....	415,221	846,897	17,818	864,715

UNITED STATES COMMERCE, &c.

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	5 months, 1846.	7 months ad. v.	Free.	Total 7 mos.
37 Sicily.....	\$170,894	378,409	1,685	380,094
38 Trieste.....	98,040	80,867	8,434	89,301
39 Turkey.....	306,758	268,690	2,262	270,952
40 Hayti.....	421,029	171,071	799,480	970,551
41 Mexico.....	265,069	207,189	274,560	481,749
42 Cen. Rep. of America..	65,900	12,096	2,585	14,681
43 New Grenada.....	69,885	47,997	38,772	86,769
44 Venezuela.....	504,116	218,206	600,174	818,380
45 Brazil.....	2,740,167	877,447	3,478,546	4,355,993
46 Cisalpine Republic...	29,965	81,039	1,806	82,845
47 Argentine Republic...	104,199	137,010	....	137,010
48 Chili.....	487,702	989,578	239,623	1,229,201
49 Peru.....	316,854	68,052	11,317	79,369
50 China.....	1,722,354	1,059,364	2,801,624	3,860,989
51 Asia generally.....	70,637	228,253	5,591	237,844
52 Africa generally.....	288,223	233,959	87,960	321,619
53 S. Seas and P. Ocean..	40,824	3,764	....	3,764
54 Sandwich Islands.....	....	21,089	....	21,039
55 S. America generally...	....	....	10,500	10,500
56 Denmark.....	....	475	....	475
57 Sardinia.....	....	287	....	287

\$44,964,180 \$69,049,068 \$32,532,460 \$101,581,528

Add 5 months of 1846..... \$44,964,180

Total imports of year ending June 30, 1847..... \$146,545,708

VESSELS BUILT IN UNITED STATES, 1815 to 1847.

Years.	Ships.	Brigs.	Schooners.	Sloops and canal b'ts.	Steamers.	Total vessels built.	Tot. ton'g.
1815.....	136	224	680	274	—	1,314	154,624
1816.....	76	122	781	424	—	1,403	131,668
1817.....	34	86	559	394	—	1,073	86,393
1818.....	53	85	428	332	—	898	82,421
1819.....	53	82	473	242	—	850	79,817
1820.....	21	60	301	152	—	584	47,784
1821.....	43	89	248	127	—	507	55,856
1822.....	64	131	260	168	—	623	75,346
1823.....	55	127	260	165	15	622	75,007
1824.....	56	156	377	166	26	781	90,939
1825.....	56	197	538	168	35	994	114,997
1826.....	71	187	482	227	45	1,012	126,438
1827.....	58	133	464	241	38	934	104,342
1828.....	73	108	474	196	33	884	98,375
1829.....	44	68	485	145	43	785	77,098
1830.....	25	56	403	116	37	637	58,094
1831.....	72	95	416	94	34	711	85,962
1832.....	132	143	568	122	100	1,065	144,539
1833.....	144	169	625	185	65	1,189	161,626
1834.....	98	94	497	180	68	937	118,330
1835.....	25	50	302	100	30	507	*46,238
1836.....	93	65	444	164	124	890	113,627
1837.....	67	72	507	168	135	949	122,987
1838.....	66	79	510	153	90	898	113,135
1839.....	83	89	439	122	125	658	120,988
1840.....	97	109	378	224	64	872	118,309
1841.....	114	101	312	157	78	762	118,893
1842.....	116	91	273	404	137	1,021	129,083
1843.....	58	34	138	173	79	482	*63,617
1844.....	73	47	204	279	163	766	103,537
1845.....	124	87	322	342	163	1,038	147,018
1846.....	100	164	576	355	225	1,420	188,202
1847.....	151	168	689	392	198	1,598	242,732

* For 9 months.

STATEMENT EXHIBITING THE COMMERCE AND NAVIGATION OF EACH STATE AND TERRITORY FOR THE YEAR ENDING ON THE 30TH DAY OF JUNE, 1847.

STATES	Value of Exports.			Value of Imports.		
	Domestic Produce.		Foreign Produce.		Total American and foreign Produce.	
	In American Vessels.	Total.	In American Vessels.	In foreign Vessels.	Total.	Total.
1 Maine.....	\$1,453,809	\$1,614,071	\$4,755	\$15,377	\$20,132	\$574,056
2 New-Hampshire.....	231,985	231,985	282,313	283	283	16,985
3 Vermont.....	7,942,656	9,262,777	1,534,580	451,105	1,985,685	239,641
4 Massachusetts.....	190,596	191,434	935	935	935	16,287,770
5 Rhode Island.....	563,848	598,702	490	490	490	34,477,008
6 Connecticut.....	32,513,500	44,816,480	3,577,741	1,450,117	5,027,858	305,489
7 New-York.....	18,438	18,438	700	700	700	3,953
8 New-Jersey.....	6,146,513	8,263,311	273,466	7,614	281,080	13,082,954
9 Pennsylvania.....	185,013	235,459	35,345	35,345	129,884	771
10 Delaware.....	6,796,076	9,632,360	94,539	94,539	129,884	4,066
11 Maryland.....	108,894	194,269	1,966	1,966	12,706	743,743
12 District of Columbia.....	3,499,110	5,645,668	10,740	10,740	12,706	503,671
13 Virginia.....	261,949	284,919	475	475	3,371	25,049
14 North Carolina.....	6,058,387	10,423,146	2,896	2,896	3,371	53,036
15 South Carolina.....	2,050,360	5,712,149	461	461	2,361	33,091
16 Georgia.....	722,831	1,808,177	1,900	1,900	2,361	136,483
17 Florida.....	3,197,209	9,054,580	70,126	70,126	263,330	5,901
18 Alabama.....	25,609,818	41,788,303	193,204	193,204	263,330	378,747
19 Louisiana.....	.....	.....	.....	.....	.....	1,580,658
20 Mississippi.....	.....	.....	.....	.....	.....	207,180
21 Tennessee.....	.....	.....	.....	.....	.....	40,118
22 Missouri.....	.....	.....	.....	.....	.....	309,669
23 Ohio.....	203,102	773,944	.....	.....	.....	1,784,974
24 Kentucky.....	.....	.....	.....	.....	.....	81
25 Michigan.....	47,098	93,795	.....	.....	.....	1,256
26 Illinois.....	40,100	52,100	.....	.....	.....	167,195
27 Texas.....	.....	.....	.....	.....	.....	2,300
Total.....	\$97,841,272	150,637,464	5,975,138	2,036,020	8,011,158	90,681
						26,956
						37,603
						266
						29,826
						33,404,281
						146,545,639

SUMMARY STATEMENT OF THE VALUE OF THE EXPORTS OF THE GROWTH, PRODUCE, AND MANUFACTURE OF THE UNITED STATES, DURING THE YEAR COMMENCING ON THE 1ST DAY OF JULY, 1846, AND ENDING ON THE 30TH DAY OF JUNE, 1847.

THE SEA.

Fisheries—		
Dried fish, or cod fisheries.....	\$659,629	.....
Pickled fish, or river fisheries, (her- ring, shad, salmon, mackerel.)....	136,221	.....
Whale and other fish oil.....	1,070,659	.....
Spermaceti oil.....	738,456	.....
Whalebone.....	671,601	.....
Spermaceti candles.....	191,467	.....
	<hr/>	\$3,468,033

THE FOREST.

Skins and furs.....	747,145	.....
Ginseng.....	64,466	.....
Products of wood—		
Staves, shingles, boards, hewn timb.	\$1,849,911	.....
Other lumber.....	342,781	.....
Masts and spars.....	23,270	.....
Oak bark and other dye.....	95,355	.....
All manufactures of wood.....	1,495,924	.....
Naval stores, tar, pitch, rosin, & turp.	759,221	.....
Ashes, pot and pearl.....	618,000	.....
	<hr/>	5,184,462
		5,996,073

AGRICULTURE.

Products of animals—		
Beef, tallow, hides, horned cattle...	2,434,003	.....
Butter and cheese.....	1,741,770	.....
Pork, (pickled,) bacon, lard, live hogs	6,630,842	.....
Horses and mules.....	277,359	.....
Sheep.....	29,100	.....
Vegetable food—		
Wheat.....	6,049,350	.....
Flour.....	26,133,811	.....
Indian corn.....	14,395,212	.....
Indian meal.....	4,301,334	.....
Rye meal.....	225,502	.....
Rye, oats, and small grain and pulse.	1,600,962	.....
Biscuit, or shipbread.....	556,266	.....
Potatoes.....	109,062	.....
Apples.....	92,961	.....
Rice.....	3,605,896	.....
	<hr/>	57,070,356
		68,183,430
Tobacco.....	.....	7,242,086
Cotton.....	.....	53,415,848
Wool.....	.....	89,460
All other agricultural products—		
Flaxseed.....	1,346	.....
Hops.....	150,654	.....
Brown sugar.....	25,483	.....
Indigo.....	10	.....
	<hr/>	177,493

MANUFACTURES.

Soap and tallow candles.....	606,798	.....
Leather boots and shoes.....	243,816	.....

Household furniture.....	225,700	
Coaches and other carriages.....	75,369	
Hats.....	59,536	
Saddlery.....	13,102	
Wax.....	161,527	
Spirits from grain.....	67,781	
Beer, ale, porter, and cider.....	68,114	
Snuff and tobacco.....	658,950	
Linseed oil and spirits of turpentine.....	498,110	
Cordage.....	27,054	
Iron—pig, bar, and nails.....	168,817	
castings.....	68,889	
all manufactures of.....	929,778	
Spirits from molasses.....	293,609	
Sugar, refined.....	124,824	
Chocolate.....	1,653	
Gunpowder.....	88,397	
Copper and brass.....	64,980	
Medicinal drugs.....	165,793	
Cotton, piece goods—		4,612,597
printed and colored.....	281,320	
white.....	3,345,902	
nankeen.....	8,794	
twist, yarn, and thread.....	108,132	
all other manufactures of.....	338,375	
Flax and hemp—		4,082,523
cloth and thread.....		477
bags and all manufactures of.....		5,305
Wearing apparel.....		47,101
Combs and buttons.....		17,026
Brushes.....		2,967
Billiard tables and apparatus.....		615
Umbrellas and parasols.....		2,150
Leather and morocco skins not sold per lb.....		29,856
Fire engines and apparatus.....		3,443
Printing presses and type.....		17,431
Musical instruments.....		16,997
Books and maps.....		44,751
Paper and stationery.....		88,731
Paints and varnish.....		54,115
Vinegar.....		9,526
Earthen and stone ware.....		4,758
Manufactures of glass.....		71,155
tin.....		6,363
pewter and lead.....		13,694
marble and stone.....		11,220
gold and silver & go. leaf.....		4,268
Gold and silver coin.....		62,620
Artificial flowers and jewelry.....		3,126
Molasses.....		26,959
Trunks.....		5,270
Brick and lime.....		17,623
Domestic salt.....		42,333
Lead.....		4,692,403
Articles not enumerated—		124,981
Manufactured.....	1,108,984	
Other articles.....	1,199,276	
Government stores to the army, from N. Y.		2,308,260
		326,800
		150,637,464

IMPORTS OF SUGAR.

In reply to a resolution of the Senate, the Treasury Department has reported the quantity and value of sugar imported into the United States from 1844 to 1847, inclusive. The qualities are stated as brown, white clayed, loaf and other refined. We give a table, showing the value of brown sugar, and the aggregate of the others, each year:

Whence Imported.	1844.	1845.	1846.	1847.
1 Cuba.....	\$4,243,292...	2,253,345...	2,812,419...	6,809,811
2 Porto Rico.....	1,893,005...	1,358,288...	1,565,217...	1,609,262
3 Danish West Indies.....	216,441...	409,005...	361,168...	377,994
4 British West Indies.....	24,791...	29,802...	26,347...	79,900
5 French West Indies.....	17,028...	2,138...	2,427...	1,377
6 Dutch West Indies.....	6,639...	4,412...	1,178...	6,539
7 Swedish West Indies.....	508...	3,282...	569...	—
8 Dutch East Indies.....	34,778...	10,323...	58,642...	—
9 Manilla and Phil. Islands...	204,936...	160,551...	266,306...	128,727
10 Brazil.....	121,487...	293,009...	250,897...	298,777
11 England.....	4,716...	—	—	—
12 Venezuela.....	21,261...	6,506...	569...	20,044
13 Texas.....	—	95...	—	—
14 Mexico.....	4,192...	545...	—	7,201
15 China.....	—	25,079...	1,421...	4,651
16 Other places.....	466...	12...	50...	938
	6,793,540...	4,556,392...	5,348,082...	9,344,721
Loaf and refined sugar, &c....	403,158...	224,163...	19,175...	532,491
Total.....	\$7,196,698...	4,780,555...	5,367,257...	9,877,212

TONNAGE &C., U. S. TRADE, JULY 1846—47.

	American tonnage.			Foreign tonnage.		
	Crews.	For trade.	Dom. trade.	Crews.	U. S. trade.	Tol. ton.
1 New York.....	54,056	1,086,744	750,951	30,944	537,458	2,375,153
2 Massachusetts.....	1,368	291,410	568,513	8,641	129,404	989,327
3 Louisiana.....	8,624	233,839	213,537	6,684	170,059	573,957
4 Pennsylvania.....	4,412	102,055	182,996	1,833	38,338	313,449
5 Maryland.....	3,520	82,099	139,119	1,685	40,966	262,184
6 Vermont.....	4,551	69,044	2,560	—	—	71,604
7 Maine.....	2,099	50,156	384,167	4,027	69,483	503,806
8 South Carolina.....	1,282	38,974	27,017	1,561	36,261	102,252
9 Connecticut.....	1,910	29,073	102,888	71	1,366	133,327
10 Virginia.....	691	21,677	73,401	1,738	39,045	134,122
11 Rhode Island.....	1,102	21,140	48,018	134	2,330	71,497
12 North Carolina.....	960	20,850	24,488	150	2,840	48,179
13 Alabama.....	609	16,596	18,030	1,568	43,162	77,388
14 Florida.....	534	11,256	12,559	833	10,204	34,019
15 Georgia.....	390	9,553	21,023	1,391	39,049	69,625
16 Ohio.....	289	5,962	50,779	476	10,273	67,014
17 Texas.....	223	5,119	2,487	479	7,868	15,474
18 New Hampshire.....	71	2,141	20,426	148	2,268	24,836
19 Illinois.....	72	1,858	3,251	17	350	5,459
20 Delaware.....	30	639	14,761	26	738	16,138
21 New Jersey.....	23	613	83,644	93	2,850	86,307
22 District of Columbia	28	516	23,457	—	—	23,971
23 Michigan.....	4	35	28,452	17	36,795	65,262
24 Mississippi.....	—	—	391	—	—	391
25 Missouri.....	—	—	31,635	—	—	31,635
26 Kentucky.....	—	—	10,388	—	—	10,388
27 Tennessee.....	—	—	2,707	—	—	2,707
	99,345	2,101,359	2,839,045	64,364	1,220,346	6,160,750

In the above table, the States are arranged in the order of their foreign trade, in American bottoms.

TONNAGE UNITED STATES, 1815 TO 1847.

Years.	Registered tonnage.	Enrolled and licen- ed ton'ge.	Total ton- nage.	Regist'd tonnage in the whale fishery.	Proportion of the enrolled and licen- sed tonnage employed in the			
					Coasting trade.	Cod fish'y.	Mack'e'l fish'y.	Whale fish'y.
1815...	854,294	513,833	1,368,127	—	435,066	26,570	—	1,323
1816...	800,759	571,458	1,372,218	—	479,979	37,879	—	1,168
1817...	809,724	590,186	1,399,912	4,874	181,457	53,990	—	349
1818...	606,088	619,095	1,225,184	16,134	503,140	58,551	—	614
1819...	612,930	647,821	1,260,751	31,700	523,556	65,044	—	686
1820...	619,047	661,118	1,280,166	35,391	539,080	60,842	—	1,053
1821...	619,896	679,062	1,298,958	26,070	559,435	51,351	—	1,924
1822...	628,150	696,548	1,324,699	43,449	573,080	58,405	—	3,133
1823...	659,920	696,644	1,356,565	39,918	566,408	67,620	—	585
1824...	669,972	719,190	1,389,163	33,165	589,223	68,419	—	180
1825...	700,787	722,323	1,423,110	35,379	587,273	70,626	—	—
1826...	737,978	796,211	1,534,189	41,757	666,420	63,761	—	226
1827...	747,170	873,437	1,620,607	45,653	732,937	74,048	—	338
1828...	812,619	928,772	1,741,391	45,621	758,922	74,947	—	180
1829...	650,142	610,654	1,260,797	56,284	508,858	101,796	—	—
1830...	576,675	615,311	1,191,776	38,911	516,978	61,554	35,973	792
1831...	620,451	647,394	1,267,846	82,315	539,723	60,977	46,210	481
1832...	686,989	752,460	1,439,450	72,868	649,627	54,027	47,427	377
1833...	750,126	856,123	1,606,149	101,158	744,198	62,720	48,725	478
1834...	857,438	901,468	1,758,907	108,060	783,618	56,403	61,082	364
1835...	885,821	939,118	1,824,940	97,640	792,301	72,374	64,443	—
1836...	897,774	984,328	1,882,102	144,680	873,023	63,307	64,424	1,573
1837...	810,447	1,086,238	1,896,685	127,241	956,990	80,551	46,810	1,894
1838...	822,591	1,173,047	1,995,639	119,629	1,041,103	70,064	56,649	5,229
1839...	834,244	1,262,234	2,096,478	131,845	1,153,551	72,558	35,983	439
1840...	899,764	1,280,999	2,180,764	136,926	1,176,694	76,035	28,269	—
1841...	945,803	1,184,940	2,130,744	157,405	1,107,067	66,551	11,321	—
1842...	975,358	1,117,031	2,092,390	151,612	1,045,753	54,804	16,096	377
1843...	1,009,305	1,149,297	2,158,601	152,374	1,076,155	61,224	11,775	142
1844...	1,068,764	1,211,330	2,280,095	168,293	1,109,614	85,224	16,170	320
1845...	1,095,171	1,321,829	2,417,002	190,695	1,190,898	69,825	21,413	206
1846...	1,130,286	1,431,798	2,562,084	186,980	1,289,870	72,516	36,463	439
1847...	1,241,312	1,597,732	2,839,095	193,858	1,452,623	70,177	31,451	—

NOTE.—No separate returns of tonnage employed in the mackerel fishery was made by the collectors of the customs prior to the year 1830.

VESSELS BUILT IN UNITED STATES JULY 1846-7.

States.	Ships.	Brigs.	Sch'rs.	Sloops & canal b'ts.	Steam's.	Tot. ves. built.	Total tonnage.
Maine.....	73	120	151	1	1	346	63,548
New-Hampshire.....	7	1	2	—	—	10	5,288
Vermont.....	—	—	1	2	—	3	135
Massachusetts.....	33	13	84	5	3	138	27,769
Rhode Island.....	3	2	3	1	1	10	2,110
Connecticut.....	3	—	30	8	1	42	6,027
New-York.....	17	5	88	138	23	371	50,994
New-Jersey.....	—	—	70	26	5	101	9,830
Pennsylvania.....	8	2	31	121	66	228	24,126
Delaware.....	—	—	17	6	2	25	2,279
Maryland.....	5	17	108	—	1	131	12,691
District of Columbia.....	—	1	2	19	—	22	801
Virginia.....	—	—	25	—	2	27	1,524
North Carolina.....	1	—	27	6	—	34	2,384
South Carolina.....	—	—	3	—	—	3	161
Georgia.....	—	—	—	1	—	1	25
Ohio.....	1	6	29	10	37	83	18,191
Missouri.....	—	—	1	43	16	60	6,073
Tennessee.....	—	—	—	—	1	1	167
Kentucky.....	—	—	1	—	30	31	5,424
Louisiana.....	—	—	9	1	2	12	493
Florida.....	—	—	—	—	2	2	387
Michigan.....	—	1	7	4	5	17	3,293
Alabama.....	—	—	—	—	—	—	—

Total.....151.....168.....689.....392.....198.....1,598.....243,732

STATEMENT OF COTTON IN FRANCE FROM 1ST JAN. TO 30TH JUNE.

Imports.	1848.	1847.	1846.
United States.....	216,481.....	160,690.....	212,530
Brazil.....	657.....	1,959.....	739
Egypt.....	1,533.....	12,073.....	1,121
Other descriptions.....	5,568.....	13,637.....	7,039
	224,239.....	188,384.....	221,429
Stock 1st January.....	62,800.....	30,000.....	69,000
	287,039.....	218,384.....	290,429
Deliveries, 6 months.....	139,939.....	136,684.....	200,329
Stock—			
United States.....	129,700.....	73,200.....	83,100
Brazil.....	2,000.....	500.....	200
Egypt.....	3,800.....	4,700.....	5,900
Other ports.....	7,500.....	3,300.....	900
Total, June 30.....	148,000.....	81,700.....	90,100

ARMISTICE.—CESSATION OF HOSTILITIES BETWEEN GERMANY AND DENMARK.

An armistice of three months has been arranged between Germany and Denmark on the following conditions :

- 1.—The Swedes to withdraw from the Danish territory.
- 2.—The Germans to withdraw from that part of the Duchy of Schleswig-Holstein called Schleswig.
- 3.—Schleswig to remain neutral ground.
- 4.—The blockade by the Danes of German ports to be raised immediately.
- 5.—The vessels captured by the Danes to be released, after settlement of the amount of contribution levied on Jutland by the Prussian army.

Official despatches from Denmark are said to be forwarded to Lord Palmerston, by the steamer conveying this intelligence, confirming the news.—*Hamburg Borsenhalle, July 4.*

AGRICULTURAL STATISTICS.

1.—FOREIGN CONSUMPTION OF GRAIN.

THE estimate of the Commissioner of Patents, showing a surplus of 40,000,000 bushels of wheat, and 173,000,000 of corn, out of the crop of the United States in 1847, provokes inquiry for the markets to which it may be forwarded. Suppose wheat to be worth seventy-five cents, and corn forty cents at the producer's barns, we have \$30,000,000 for the one, and \$70,000,000 for the other, making the joint sum of \$100,000,000 for these two articles of production, for which there is no demand at home. What shall be done with it? Where can purchasers be found? are questions that naturally arise in every mind; and the best answer at our command, is a statement, exhibiting the quantity of wheat, (exclusive of other grain,) required by the principal corn purchasing countries of the world.

Great Britain.....	20,000,000 bushels.
France.....	5,000,000 "
West Indies, generally.....	2,500,000 "
British American Colonies.....	2,250,000 "
North America, generally.....	350,000 "
South America, generally.....	1,900,000 "
Holland.....	1,000,000 "

Total.....33,000,000 bushels.

During the last two years, as stated in late parliamentary proceedings, the importation and cost of grain to Great Britain were as follows:

Grain imported, 1846.....	4,770,000 quarters.
" " 1847.....	10,840,000 "
Paid for grain, June, 1846, to January, 1847.....	£5,139,000
" " January to July, 1847.....	14,184,000
" " July to October, 1847.....	14,260,000
Cost, in fifteen months.....	£33,583,000

Of course, the table specifying a demand for only 33,000,000 bushels, is predicated on fair harvests in the respective countries needing a supply. Thus, Great Britain, with average crops, falls short 20,000,000 bushels; but in 1846-7, owing to the potato blight, her necessity amounted to 14,610,000 quarters, equivalent to 116,880,000 bushels, for which she paid \$150,000,000 to foreigners. What portion of this sum was taken by the agriculture of the United States, has been officially ascertained for the year ending June 30, 1848:

Articles exported.	To Great Britain.	To other countries.	Total.
Flour.....	\$15,104,574....	\$11,029,237....	\$26,133,811
Indian Corn.....	13,760,310....	634,902....	14,395,212
Wheat.....	3,526,392....	2,522,958....	6,049,350
Indian Meal.....	3,362,982....	938,352....	4,301,334
Rice.....	1,222,232....	2,383,664....	3,605,896
Other small grain.....	631,902....	969,060....	1,600,962
Biscuit, or Ship Bread.....	164,322....	391,944....	556,266
Rye Meal.....	34,977....	190,525....	225,502
Potatoes.....	2,827....	106,235....	109,062
Total Grain.....	\$37,810,518....	\$19,166,877....	\$56,977,395
Pork, Bacon and Lard.....	3,471,597....	3,159,245....	6,630,842
Beef.....	1,269,975....	1,164,028....	2,434,003
Butter and Cheese.....	1,209,277....	532,493....	1,741,770
Mutton.....	—....	29,100....	29,100
Total Provisions.....	\$43,761,367....	\$24,051,743....	\$67,813,110

Whatever the quantity on hand, or the price, it cannot be presumed that the exportation from the United States will equal the above in many years to come, if, indeed, it reach half way. Another famine in Europe could alone produce such extremity—an infliction which no hope of profit to American granary owners would solicit. Except the United States, the countries from which Great Britain could be supplied, are the following:

Russia on the Black Sea.....	16,000,000 bushels.
Russia on the Danube.....	12,000,000 "
Russia, northern ports.....	4,000,000 "
Egypt and Syria.....	4,000,000 "
Prussian, Pomeranian and Danish ports on the Baltic.....	1,600,000 "

37,600,000 bushels.

Competition for the British market being an object with the producing world,

we annex a table, showing the average prices of wheat per bushel, delivered in England, from the principal corn marts of Europe. The estimate includes the cost of production, freight, &c., exclusive of duties.

	Bushels.	Cost in England.
St Petersburg, Russia.....	1,540,000.....	\$1 32
Riga, Russia.....	.....	1 64
Liebau, Russia.....	240,000.....	1 46
Odessa, Russia.....	1,200,000.....	1 09
Warsaw, Poland.....	2,400,000.....	1 20
Stockholm, Sweden.....	8,000.....	1 13
Dantzic, Prussia.....	2,520,000.....	1 32
Konigsberg, Prussia.....	520,000.....	1 44
Stettin, Prussia.....	2,000,000.....	1 34
Memel, Prussia.....	47,712.....	1 19
Elsinore, Denmark.....	1,400,000.....	1 13
Hamburg, Germany.....	4,304,000.....	1 34
Rotterdam, Holland.....	.....	1 73
Antwerp, Belgium.....	.....	1 77
Palermo, Sicily.....	1,600,000.....	1 40
Average.....	1,779,712.....	\$1 38

The cost of growing wheat and Indian corn in a portion of the United States is stated below, for which our readers are indebted to the Commissioner of Patents :

	Wheat.	Corn.
	\$1 10 per bushel.....	\$0 50 per bushel.
New-Hampshire.....	64	30
New-York, western.....	40	17
Pennsylvania.....	50	20
Ohio, northern.....	40	18
Michigan.....	30	—
Indiana.....	—	37
Connecticut.....	—	—

With more or less variation, as expenses may happen, the following will show the cost of a barrel of flour delivered at Liverpool from any part of the United States. Wheat is supposed to be worth sixty-four cents per bushel at Rochester mills, N. Y., from whence the calculation is made :

Five bushels of wheat, 64 cents, first cost.....	\$3 20
Grinding and bolting.....	30
Barrel.....	33
Freight to Albany.....	56
Freight and charges from Albany to New-York.....	12
Freight from New-York to Liverpool, (average).....	39
Insurance, Wharfage, &c.....	25

\$5 15

Divided by five, this sum shows the cost of wheat in Liverpool when exported in the form of flour, to be \$1 03 per bushel, against the general average of \$1 38 from European countries, as exhibited in a preceding table, a result quite encouraging to the farming interest of the United States.

2.—PORK BUSINESS OF THE WEST.

The immense surplus grain of the Western States is converted into animal food, which supplies most of the Union, besides a large amount to foreign countries. From the Patent Office Report for 1847, we gather the items below :

HOGS PACKED AT CINCINNATI, 1833—1847.

Year.	No. of Hogs.	Price.	Year.	No. of Hogs.	Price.
1833.....	85,000.....	.....	1841.....	160,000.....	3½ a 3½
1834.....	123,000.....	.....	1842.....	220,000.....	2 a 2½
1835.....	162,000.....	.....	1843.....	250,000.....	1½ a 2
1836.....	123,000.....	6 a 6½	1844.....	240,000.....	2½ a 2½
1837.....	103,000.....	6 a 7	1845.....	213,000.....	2½ a 2 7-10
1838.....	182,000.....	3½ a 4	1846.....	287,000.....	4 a 4½
1839.....	199,000.....	5½ a 6	1847.....	250,000.....	2 7-10 a 2 8-10
1840.....	95,000.....	3 a 3½			

ENTIRE PACKING IN THE WEST, 1844—1846.

	1844.	1845.	1846.
Missouri.....	16,000.....	31,700.....	70,898
Tennessee.....	16,000.....	1,500.....	42,975
Kentucky.....	91,000.....	33,800.....	215,125
Illinois.....	136,709.....	67,964.....	68,120
Indiana.....	257,414.....	147,420.....	251,236
Ohio.....	560,748.....	445,538.....	420,833
Minor points.....	1,200.....	8,850.....	18,675
Total.....	1,079,071.....	786,772.....	1,087,862

The estimate on 420,000 hogs, supposed to be packed at Cincinnati, in 1847-8, of 200 pounds each, gives the following distribution:

150,000 barrels pork.	1,875,000 pounds star candles.
21,000,000 pounds bacon.	5,200,000 " bar soap.
13,800,000 " No. 1 lard.	7,300,000 " fancy and soft soaps.
1,000,000 gallons lard oil.	50,000 " prussiate of potash.

The entire carcase weight of the lot, when dressed, is computed thus:

150,000 barrels pork—196 pounds net.....	29,400,000 lbs.
Bacon.....	21,000,300 "
Number one, or leaf lard.....	13,800,000 "
Lard or grease run into lard oil, stearine and soap oleine.....	5,000,000 "
Inferior grease for soap.....	1,000,000 "
Evaporation, shrinkage, waste, cracklings and offal for manure....	13,800,000 "

84,000,000 lbs.

The process of preparing lard at Cincinnati, is thus noticed in the Report:—

"One establishment, besides putting up hams, etc., extensively, is engaged in extracting the grease from the rest of the hog. This will probably, the present year, operate upon thirty thousand hogs. It has seven large circular tanks—six of capacity to hold each fifteen thousand pounds, and one to hold six thousand pounds—all gross. These receive the entire carcase, with the exception of the hams, and the mass is subjected to steam process under a pressure of seventy pounds to the square-inch, the effect of which operation is to reduce the whole to one consistence, and every bone to powder. The fat is drawn off by cocks, and the residuum, a mere earthy substance, so far as made use of, is taken away for manure. Besides the hogs which reach this factory in entire carcases, the great mass of heads, ribs, back bones, tail pieces, feet, and other trimmings of the hogs, cut up at different pork houses, are subjected to the same process, in order to extract every particle of grease. This concern alone will turn out this season three millions six hundred thousand pounds lard, five-sixths of which is No. 1. Nothing can surpass the purity and beauty of this lard, which is refined as well as made under steam processes."

Bristle dressing employs one hundred hands, and the sale, chiefly in Atlantic markets, brings about \$55,000 annually. The blood of the hogs is manufactured into Prussian blue, and parts of other offal into prussiate of potash, which is extensively used in the print factories of New-England, for coloring purposes.

PRICE OF PORK IN NEW-YORK, 1823—1847.

Year.	Mess.	Pickled.	Year.	Mess.	Pickled.
1823.....	\$13 31	\$9 78	1836.....	\$23 13	\$17 65
1824.....	13 78	10 32	1837.....	21 66	15 99
1825.....	13 85	10 22	1838.....	21 97	16 59
1826.....	11 55	7 84	1839.....	19 32	15 72
1827.....	13 21	8 62	1840.....	15 07	12 96
1828.....	13 71	10 06	1841.....	11 36	9 48
1829.....	12 79	10 24	1842.....	9 27	7 23
1830.....	13 64	9 87	1843.....	10 32	9 59
1831.....	14 30	11 13	1844.....	9 28	7 39
1832.....	13 77	11 22	1845.....	12 13	9 51
1833.....	14 97	11 53	1846.....	10 50	8 78
1834.....	14 29	10 21	1847.....	15 00	12 58
1835.....	16 96	13 08			

EXPORTS OF PORK, 1831—1846.

Year.	Barrels.	Year.	Barrels.	Year.	Barrels.
1831.....	51,263	1837.....	24,583	1842.....	180,039
1832.....	83,025	1838.....	31,336	1843.....	80,310
1833.....	105,840	1839.....	41,301	1844.....	162,689
1834.....	83,961	1840.....	66,281	1845.....	161,609
1835.....	61,827	1841.....	132,390	1846.....	190,422
1836.....	22,540				

3.—GRAIN CROP OF UNITED STATES, 1847.

As a basis, the Patent Report takes the census returns of 1840, and adds 22 per cent. for increase of production, by which the following summary is attained, in bushels:

Varieties.	Whole quantity raised.	Used for Seed.	Remaining.
Indian Corn.....	539,350,000	6,000,000	533,350,000
Wheat.....	114,245,500	11,424,550	102,820,950
Rye.....	29,222,700	3,652,587	25,570,113
Buckwheat.....	11,673,500	723,343	10,950,157
	694,491,700	21,804,480	672,691,220

Corn for animal feed, is stated by estimation as follows:

	Bushels.
Consumed by 5,239,516 horses, at 5 bushels per head.....	26,447,580
" " 18,265,344 neat cattle, at 1 bushel per head.....	18,265,344
" " 25,000,000 sheep, at $\frac{1}{4}$ " ".....	6,250,000
" " 35,000,000 swine, at 5 " ".....	175,000,000
" " Poultry.....	5,000,000
	230,963,096

To ascertain the surplus remaining for exportation, the Report furnishes a statement, condensed from tables, at length:

Wheat.	Bushels.	Surplus.
Quantity produced in 1847.....	114,245,500	
" used for seed.....	11,424,550	
" consumed.....	62,239,200	
	73,663,750	40,581,750
<i>Indian Corn.</i>		
Quantity produced in 1847.....	539,350,000	
" used for seed.....	6,000,000	
" consumed by men.....	103,732,000	
" consumed by animals.....	230,963,096	
" used for distilling, &c.....	25,000,000	
	365,695,096	173,654,904
<i>Rye.</i>		
Quantity produced in 1847.....	29,222,700	
" used for seed.....	3,652,587	
" consumption estimated.....	10,373,200	
" used for distilling, &c.....	10,000,000	
	24,325,787	5,296,913

<i>Buckwheat.</i>	<i>Bushels.</i>	<i>Surplus</i>
Quantity produced in 1847.....	11,673,500	
“ used for seed.....	723,343	
“ consumed.....	6,000,000	
	6,723,343	4,950,935
Total surplus for exportation to foreign countries.....		224,384,508

The crop of oats, for 1847, is estimated at 167,867,000 bushels.

“ “ barley “ “	5,649,950	“
“ “ beans and peas “ “	50,000,000	“
“ “ potatoes “ “	100,950,000	“
“ “ rice “ “	103,640,590 lbs.	

4.—IMPORTANT ANALYSIS OF CROPS.

To the Farmer's Library, edited by J. S. SKINNER, Esq., New-York, we are indebted for the following table from Johnston's Lectures, exhibiting the average produce of nutritive matter of different kinds from an acre of the usually cultivated crops.

	Gross Produce.		Husk, or	Starch,			Saline
	<i>bush.</i>	<i>lbs.</i>	Woody Fibre.	Sugar, &c.	Gluten, &c.	Oil or Fat.	Matter
			<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>
Wheat.....	25..	1,500....	225	825	150 to 280...	30 to 60	.. 30
“	30..	1,800....	270	990	180 to 340...	36 to 72	.. 36
Barley.....	35..	1,800....	270	1,080	210 to 260...	35 to 54	.. 50
“	40..	2,100....	315	1,260	250 to 310...	42 to 63	.. 60
Oats.....	40..	1,700....	340	1,000	230 to 320...	60 to 120	.. 70
“	50..	2,100....	420	1,054	290 to 400...	76 to 150	.. 80
Rye.....	25..	1,300....	130 to 260...	780	130 to 200...	40 to 50	.. 36
“	30..	1,600....	160 to 320...	960	230 to 350...	48 to 65	.. 32
Indian Corn.....	30..	1,800....	100	1,260	216	90 to 170	.. 27
Buckwheat.....	30..	1,300....	320	650	100?	5?	.. 21
Beans.....	25..	1,600....	160	640	380 to 450...	32 to 48	.. 48
“	30..	1,900....	190	760	450 to 530...	38 to 57	.. 57
Peas.....	25..	1,600....	130	800	380	34	.. 48
<i>Tons.</i>							
Potatoes.....	6..	13,500....	540	2,400	270	45	.. 120
“	12..	27,000....	1,080	4,800	540	90	.. 240
Turnips.....	20..	45,000....	900	4,000	670	130	.. 300
“	30..	67,000....	1,340	6,000	1,000	200	.. 450
Carrots.....	25..	56,000....	1,680	5,600	840	200	.. 800
Mangel-Wurzel..	20..	45,000....	900	4,950	900	?	.. 450
Meadow Hay.....	1½..	3,400....	1,020	1,360	240	70 to 170	.. 220
Clover Hay.....	2..	4,500....	11,20	1,800	420	135 to 225	.. 400
Pea Straw.....	..	2,700....	675	1,200	330	40	.. 135
Wheat Straw.....	..	3,000....	1,500	900	40	60 to 100	.. 150
“ .....	..	3,600....	1,800	1,080	48	70 to 120	.. 180
Oat Straw.....	..	2,700....	1,210	950	36	?	.. 135
“ .....	..	3,500....	1,570	1,200	48	?	.. 175
Barley Straw.....	..	2,100....	1,050	630	28	?	.. 105
“ .....	..	2,500....	1,250	750	33	?	.. 125
Rye Straw.....	..	4,000....	1,800	1,500	53	?	.. 160
“ .....	..	4,800....	2,200	1,800	64	?	.. 200

The value of this table, in practice, is mainly in the feeding of stock, where the quantity acquired for nutrition can be thrown out, and waste avoided. Sugar, gluten and oil, the highly nourishing properties of grain, are shown by the analysis.

5.—GOVERNOR MC DUFFIE'S COTTON PLANTATION.

A writer, in Augusta, has lately had an opportunity of inspecting the valuable estate of this noble Carolinian, in Abbeville, S. C. He speaks of it as a model in every respect.

"The plantation was commenced in 1821, with about three hundred acres; has been enlarged at various times to the capacity of 5,000 acres; situated in the flat woods of Abbeville District, six miles from the Savannah river. The number of negroes on the plantation is 175; of these many are employed at indoor occupations, leaving 102 field workers, many of whom are small, having but recently left the nursery, and a number of them women, who occupy much of their time in attending to their children, so that the effective force of the plantation numbers 70 task hands. The number of mules 24. I found that this force had prepared and cultivated with great ease 750 acres of cotton, 325 of corn, 10 of peas, potatoes and squashes, 100 of wheat, and 300 of oats. The cotton was thinned to a stand to one stalk in a place; it was perfectly clean, and was the largest and most beautiful I had seen this year. The corn was particularly fine, and promised to yield from 25 to 30 bushels per acre: the wheat 10 bushels, and the oats 15 per acre, and the cotton 1000 lbs. per acre. These estimates were made by neighbors who are acquainted with the mode of culture, and who know that a greater yield than this had been obtained under the administration of a former overseer, a Mr. Brooks. The buildings, fences and gates were in fine order, and the whole crop in as fine a state of cultivation as the garden of an horticulturist who prides in his profession. The mules were fat, and the entire stock of sheep, cattle and hogs looked well. Here is a plantation cultivating over 15 acres of plow and hoe crop to the hand, and over 21 acres to the hand inclusive of small grain, and over 61 acres to the horse; what plantation can equal this? Yet the entire crop clean, even and beautiful, and the condition of the land so perfectly fine and pulverized that, as was said by a great planter in the neighborhood, it could not be improved except by the process of running it through a sieve. The whole secret of the success of Gov. McDuffie, as a planter, consists in his method of preparation, manuring and cultivation.

"The following plan is adopted for cotton: if the ground to be prepared for cotton had been in cotton the previous year, the first operation is to pull up the stalks and lay them in the middle, between the rows; a hand then walks backwards and draws in the soil, leaves, and trash from the ridges, with the hoe, upon the stalks that have been pulled up and deposited in the row, and on which he walks. This operation is called listing in. The task for a hand is half an acre per day. After all is listed in, the turning shovel throws a furrow on each side which entirely hides the stalks and trash listed in; this is the first use of the plow and two furrows fire made: two more furrows, run in like manner, just before planting, finishes the preparation, so far as the plow is concerned; the hoe then draws up from between the rows all the loose dirt. Thus twice passing over with the hoe and four furrows of the plow makes a perfect preparation for planting on a ridge well manured with stalks and cotton trash, and whatever of weeds and grass that may be on the land. But if the ground to be prepared for cotton had been in corn or grain, or fallow, the same process exactly is observed, only that one or more furrow of the plow is required, and that is a rooter or broad shovel to lay off the rows into which the stalks, grass or stubble are drawn to become manure for the cotton bed or ridge. When the period for planting arrives, the hands are divided into three classes: 1st, The best hands, embracing those of good judgment and quick motion. 2d, Those of the weakest and most inefficient class. 3d, The second class of hoe hands.

"Thus classified, the first class will run ahead and open a small hole about seven to ten inches apart, into which the 2d class drop from four to five cotton seed, and the third class follow and cover with a rake. You have visited this farm and can testify to the goodness of the stand of cotton, and to the regular and exact distance of the stalks from each other. The hoe is never permitted to pass between the cotton, it being thinned by the hand, and three-fourths of an acre is a task for a hand a day; all hoe work in the cotton consists in scraping up and the ridges, occasionally assisted, if needed, with what Mr. Cheatham calls

the horse-shoe; a most valuable invention, if I am not mistaken, of his—it is more like the scooter or buzzard plow, than any other. It is fixed to a rooter stock. One running of this plow on the side of the ridge, it being very sharp, cuts or scrapes up all the young grass, the dirt that falls in between the rows is drawn up by the hoes, it being the main object never to work down the ridge, and always to draw up whatever gets worked down. By this method the ground is always well prepared; the ridges manured; the cotton planted regularly without a waste of seed; saving enough seed to manure a great many acres of corn; ten to eleven furrows to the row with the horse and plow preparing and making a crop of cotton, thereby dispensing with one-half the horse power, and saving one-half the great expense of sustaining that animal, to say nothing of its prime cost.

"Fearing that I may occupy too much space, permit me to close by saying, that Gov. McDuffie's plantation is a model that all should imitate. It is a model in every department of planting corn, or cotton, in manuring, in beauty and neatness of arrangement, and in management of the negroes, and for net income, surpasses most of the famed plantations of the West."

6.—ARTESIAN WELL IN CHARLESTON, S. C.

The operation of boring an Artesian Well having been resumed by Mr. Welton, of Alabama, I purpose, in accordance with my promise to his Honor the Mayor, to continue the examination of the matter brought up by the auger, and to record whatever may be of interest or bear upon the geology of this region.

The springs which supply the wells of Charleston are reached at from twelve to eighteen feet below the surface, in strata of white and gray sands with pebbles; these are supported by others of stiff blue clay, and of clay and sea-shells mixed, (indicative of the formation known to geologists as the post-pliocene of Lyell,) below which is a stratum of a substance resembling peat. All of these strata emit a fœtid odor, and must not be penetrated in digging; the water being so offensive as to be unfit for use; hence, the wells in the city are seldom more than twelve or sixteen feet deep. These wells are all dependant upon the rains; which, percolating from the surface, are obstructed in their descent and held by this impervious layer of blue mud. In seasons of drought they become dry, or nearly so; and are at all times but the receptacles of the filth and offscourings of the surface, washed down by the rains. An inexhaustible supply of good water, at a depth easily attainable, and at a cost placing it within the means of private individuals, has long been a great desideratum. It is, therefore, with much pleasure I report the discovery of a water-bearing stratum underlying the city, which promises all that the citizens or Council can reasonably desire. "Some years ago an experiment was made in Charleston by Mr. Longstreet, to obtain pure water. He penetrated the earth 57 feet—20 feet by excavation in the common way; but the cavity filled so fast with muddy brackish water, that he abandoned this plan and resorted to boring, by which he succeeded to reach 37 feet more, when the water rushed up the tube to within 6 feet of the surface, yielding 15 gallons in a minute, and resembling common well water in taste and appearance, though purer."—(*Mills's Statistics*, p. 30.)

In the year 1823, Dr. Moser, in boring for water, by authority of Council, in the Poor-house yard, penetrated and passed through a stratum of coarse sand and gravel between the depths of sixty-one and sixty-seven feet. "When moistened with water, (I quote from his report, *Mills's Statistics*, p. 32,) it appeared to partake of the nature of quicksand, and evidenced the correctness of the conjecture, by making so much opposition to the sinking of our last iron tubes (which were 6 inches in diameter and 4½ inches in bore,) that for every inch the auger descended, it filled in the bore about three feet, again to be bored out; this kept us at hard labor more than six months, when, to the great gratification of the commissioners and relief of the laborers, on the 12th January, 1824, the pipes settled firmly at 67 feet, on a stratum of olive colored clay marl, which, when heated, became of a white color, and so well preserved its arch as to render additional pipes unnecessary."

Nothing is said in his report about the water in this stratum, and it is presumed that Dr. Moser did not test its quality or quantity; or had allowed the bad waters of the upper springs to become mixed with it.

Gen. Brisbane, at the depth of fifty-three feet, encountered and soon passed through this white sand and gravel underlying the peaty stratum, but unlike Dr. Moser, he met with little or no resistance; the powerful lever used by Gen. Brisbane to force down his wooden cylinders soon placed him below it; and could he have exhausted the water at intervals in his cylinder, he would have been able to test the difference in the waters of the upper, middle, and lower springs. His pipes being wooden cylinders, it is presumed were not sufficiently water tight to admit of this. Mr. Welton, who is now engaged upon a new bore, uses cast iron tubes, in sections of ten feet, connected by wrought iron bands put on whilst hot, whose contraction in cooling, renders its joints nearly, if not quite, water tight. Upon reaching this lower bed of sand, he found it almost impossible to reduce the water in the tubes, and was fearful that the water from the middle springs (which is very offensive) had forced a passage on the outside of his tube down to the lower end, through which it entered. My experience in digging marl from this bed, about ten miles from the city, where it approaches within a few feet of the surface, assured me that this could not be the case; but on the contrary, that the water *must come from below*; and at my suggestion, the bucket was again manned, and Mr. Welton reduced the water to the joint of the third section of the tube. Lighted candles were then lowered, the joints found to be perfectly tight, and the water to be boiling up from the lower end of the tube. In a short time it was within six feet of the surface, and found to be fresh and very palatable. Buckets being filled, it soon became clear and settled, and was pronounced by the many who freely partook of it (among whom were some of our most respectable citizens) superior to the well water of the city.

By the ordinary tests, the salts, etc., which are found in the spring and well waters of this region, were detected; but the quantities of each have not yet been ascertained. For the purpose of washing, it is undoubtedly better than our common pump water, producing with soap a good lather.

Mr. Welton thinks the supply will be abundant, as the hard marl of the Eocene bed, which is impervious to water, underlies it. In a word, good wholesome water can be obtained in abundance by boring and tubing to the depth of about sixty feet. Viewed in a geological light, it will be interesting to ascertain the source from whence these waters are obtained. The hard marl, which is the impervious stratum underlying the sands, is exposed on the banks of Ashley river, about ten miles from the city, a little below Ashly ferry, and many springs of fine water are found flowing over it. Farr's spring in St. Andrew's Parish, about one mile from the ferry, has never been known to fail; it issues from this stratum of sand and gravel overlying the marl. In wet seasons, when the swamps are overflowed, smaller springs burst out around it from the sides of the hill, the water having apparently insufficient vent from the main spring.

At intervals during the last five or seven years the country has suffered from excessive droughts, but this spring, at all times, could supply water sufficient to flow in a few days the small rice field of some 8 or 10 acres which spreads out at its base.

At the plantation of Geo. Henry Smith, Esq., on Goose Creek, and about the same distance from Charleston, (10 miles) there is a spring of fresh water jetting out from the bottom of the creek, and through the salt water. This has been examined by Mr. Welton, who has little doubt of the practicability of tubing so as to exclude the salt water, and raise the fresh water sufficiently high to be available in flowing the extensive fields of rush-land which surround it.

A short distance inland, the hard marl of the Eocene bed is seen underlying a bold stream of fine water, issuing from the sand above. This spring has been estimated to yield over a million of gallons per diem.

The two last mentioned springs must be about the north edge of the basin, and all of them being found in the same stratum as that under our city, must derive their supplies of water from the same source.

Very respectfully, your obedient servant,

FRANCIS S. HOLMES.

COMMERCIAL MISCELLANIES, ETC.

1.—SUGAR, COFFEE, PEPPER, INDIGO.

IMPORTATIONS to, and stocks on hand, at the places designated, the 30th April, 1847, and 1848, as follows:

SUGAR.

	Imports.		Stocks.	
	1847.	1848.	1847.	1848.
Hamburgh.....	11,900,000.	22,300,000.	6,500,000.	23,000,000.
Bremen.....	2,400,000.	6,000,000.	800,000.	5,800,000.
Amsterdam.....	47,700,000.	57,600,000.	29,000,000.	44,000,000.
Rotterdam.....	19,600,000.	23,600,000.	14,400,000.	21,700,000.
Antwerp.....	7,800,000.	12,800,000.	4,100,000.	7,800,000.
Havre.....	22,000,000.	9,500,000.	2,900,000.	9,700,000.
Bordeaux.....	8,700,000.	9,200,000.	1,800,000.	7,000,000.
Marseilles.....	10,000,000.	14,100,000.	2,200,000.	4,300,000.
Genoa.....	9,400,000.	3,900,000.	6,300,000.	5,700,000.
Leghorn.....	5,300,000.	2,900,000.	2,800,000.	2,200,000.
Trieste.....	28,100,000.	30,800,000.	14,300,000.	18,900,000.
Great Britain.....	270,400,000.	179,200,000.	168,300,000.	201,600,000.
Total.....	443,200,000.	371,800,000.	253,300,000.	351,700,000.

COFFEE.

	Imports.		Stocks.	
	1847.	1848.	1847.	1848.
Hamburgh.....	25,700,000.	26,500,000.	16,500,000.	22,500,000.
Bremen.....	3,800,000.	5,300,000.	1,600,000.	3,700,000.
Amsterdam.....	28,300,000.	31,100,000.	31,000,000.	51,700,000.
Rotterdam.....	20,000,000.	20,200,000.	23,600,000.	34,000,000.
Antwerp.....	11,800,000.	14,600,000.	8,900,000.	16,400,000.
Havre.....	14,000,000.	10,400,000.	5,200,000.	11,300,000.
Bordeaux.....	3,000,000.	3,400,000.	3,800,000.	4,400,000.
Marseilles.....	5,000,000.	5,900,000.	900,000.	2,500,000.
Genoa.....	2,500,000.	2,900,000.	900,000.	2,500,000.
Leghorn.....	600,000.	400,000.	200,000.	100,000.
Trieste.....	11,700,000.	14,800,000.	7,900,000.	17,700,000.
Great Britain.....	7,200,000.	9,900,000.	37,500,000.	38,700,000.
Total.....	135,600,000.	145,100,000.	130,300,000.	205,500,000.

PEPPER.

	Imports.		Stocks.	
	Bags of 100 lb.	Bags of 100 lb.	Bags of 100 lb.	Bags of 100 lb.
Hamburgh.....	18,148.	7,899.	8,500.	10,005.
Bremen.....	3,224.	1,597.	400.	none.
Amsterdam.....	1,580.	1,960.	2,400.	300.
Rotterdam.....	6,212.	1,876.	2,320.	3,650.
Antwerp.....	none.	none.	15,378.	20,592.
Havre.....	178.	none.	250.	none.
Bordeaux.....	4,100.	600.	18,000.	12,000.
Marseilles.....	2,100.	7,804.	4,850.	7,510.
Genoa.....	none.	none.	5,400.	none.
Leghorn.....	450.	990.	3,000.	1,120.
Trieste.....	1,254.	none.	29,254.	12,432.
Great Britain.....	15,200.	18,500.	71,000.	82,000.
Total.....	52,446.	41,226.	163,752.	142,609.

INDIGO.

	Imports.		Stocks.	
	Chests E. India.	Chests E. India.	Chests E. India.	Chests E. India.
Hamburgh.....	1,192.	1,582.	280.	420.
Bremen.....	27.	13.	23.	27.
Amsterdam.....	4,152.	3,061.	4,570.	4,400.
Rotterdam.....	3,848.	3,604.	4,670.	5,281.
Antwerp.....	242.	111.	41.	72.
Havre.....	2,495.	115.	7,728.	6,671.
Bordeaux.....	620.	332.	3,300.	2,312.
Marseilles.....	68.	143.	23.	138.
Genoa.....	118.	90.	150.	125.
Leghorn.....	56.	69.	170.	145.
Trieste.....	118.	103.	480.	490.
Great Britain.....	4,442.	4,390.	29,024.	28,994.
Total.....	17,378.	13,613.	50,459.	49,075.

2.—GROWTH OF TEXAS—COTTON—SUGAR.

The following statements, extracted from the Galveston News, furnish interesting information respecting the Cotton and Sugar production of Texas:

In 1829, the whole cotton crop of Texas was about 500 bales; from that time to 1835, it had increased to between 3 and 4000 bales. In 1840, it amounted to about 8000 bales; since which time there have been three seasons of nearly a total failure, one occasioned by heavy rains, and two by the worm or caterpillar. The crop of '46 amounted to about 8000 bales, which was probably not more than half an average crop. The crop of '47, all of which has not yet reached our market, will exceed 40,000 bales. This shows an increase of about 33½ per ct. per annum for the last eight years. In these statements we omit altogether the crop of Eastern Texas, which has been shipped by way of Red River to New-Orleans, and the amount of which has been estimated variously, some even making it equal to the whole crop of all the rest of Texas. It is necessary here to remark that the aggregate of our cotton crop has been diminished, by the increased attention paid to sugar, to the amount of 2000 or 3000 bales; and the same cause is likely to operate more effectually in future as a check upon the increase of cotton.

Sugar has been made in Texas to a very limited extent and for domestic uses for many years; but no mills for manufacturing it as an article for market or export, have been introduced till very recently. The first export of sugar was about 50 hhds. of the crop of 1846. Of the crop of last year (1847) the export has amounted now to 500 hhds. which will be increased to about 600. The whole of that crop does not vary much from 2000 hhds. So that about 1,400 find a market at home. Full half of that crop was probably destroyed by the early frost last fall. This year the production, with a favorable season, will amount to at least 5000 hhds. and probably more; and the amount will increase probably full 50 per cent. per year for some years to come.

Two years and a half since, we travelled the country from Seguin to New-Braunfels, San Antonio, and other interior towns. There was not then a single settler on the Cibolo, nor could one be found on the whole route from San Antonio to New-Braunfels, nor from the latter place to Austin. A gentleman just from New Braunfels, where he has resided ever since that town was built, informs us that all this country is now scattered over with small, but flourishing and prosperous farms. The Cibolo and other streams in the vicinity of San Antonio are filled up with continuous settlements. New-Braunfels has more than doubled in size, and the Guadalupe below to Seguin is covered with many small and some pretty large plantations cultivated by negroes. The town of Fredericksburg on the Pinedales has also greatly increased, and the surrounding country is said to be filled with an industrious population of German farmers. Settlements have been made still higher upon the Llano and San Saba, and all of them are prosperous and undisturbed by Indians. We are glad to learn that the German colonists there have this year planted an abundance of corn which, in many instances, is the first agricultural experiment ever made in that region. This crop is remarkably fine, and far exceeds the expectations of the emigrants. They have had fine seasons of rain, and the corn is now so nearly matured that it is out of all danger from drought. The same is also the case in Castro's Colony on the Medina. There are three or four settlements of the German Communists on the Llano numbering nearly one hundred, who are said to be very intelligent and enterprising; they are mostly young men. At present they have no women among them.

3.—OUR TREATY WITH GRENADA AND THE PASSAGE OF THE ISTHMUS OF PANAMA.

ARTICLE 35. The United States of America and the republic of New Granada desiring to make as durable as possible the relations which are to be established between the two parties by virtue of this treaty, have declared solemnly, and do agree to the following points :

1st. For the better understanding of the preceding articles, it is and has been stipulated between the high contracting parties, that the citizens, vessels, and merchandise of the United States shall enjoy in the ports of New Granada, including those of the part of the Granadian territory generally denominated *isthmus of Panama*, from its southernmost extremity until the boundary of Costa Rica, all the exemptions, privileges, and immunities concerning commerce and navigation, which are now or may hereafter be enjoyed by the Granadian citizens, their vessels, and merchandise, and that this equality of favors shall be made to extend to the passengers, correspondence, and merchandise of the United States, in their transit across the said territory from one sea to the other. The Government of New Granada guaranties to the Government of the United States that the right of way or transit across the *isthmus of Panama* upon any modes of communication that now exist, or that may be hereafter constructed, shall be open and free to the Government and citizens of the United States, and for the transportation of any articles of produce, manufactures, or merchandise, of lawful commerce, belonging to the citizens of the United States; that no other tolls or charges shall be levied or collected upon the citizens of the United States, or their said merchandise thus passing over any road or canal that may be made by the government of New Grenada, or by the authority of the same, than is, under like circumstances, levied upon and collected from the Granadian citizens; that any lawful produce, manufactures or merchandise belonging to the citizens of the United States thus passing from one sea to the other, in either direction, for the purpose of exportation to any other foreign country, shall not be liable to any import duties whatever; or, having paid such duties, they shall be entitled to drawback upon their exportation; nor shall the citizens of the United States be liable to any duties, tolls or charges of any kind to which native citizens are not subjected for thus passing the said isthmus. And, in order to secure to themselves the tranquil and constant enjoyment of these advantages, and as an especial compensation for the said advantages, and for the favors they have acquired by the 4th, 5th, and 6th articles of this treaty, the United States guaranty positively and efficaciously to New Grenada, by the present stipulation, the perfect neutrality of the beforementioned isthmus, with the view that the free transit from the one to the other sea may not be interrupted or embarrassed in any future time while this treaty exists; and in consequence, the United States also guaranty, in the same manner, the rights of sovereignty and property which New Granada has and possesses over the said territory.

4.—OUR TREATY WITH MEXICO AND THE SOUTH-WESTERN BOUNDARY OF THE UNITED STATES.

ARTICLE V.—The boundary line between the two Republics shall commence in the Gulf of Mexico, three leagues from land, opposite the mouth of the Rio Grande, otherwise called Rio Bravo del Norte, or opposite the mouth of its deepest branch, if it should have more than one branch emptying directly into the sea; from thence up the middle of that river, following the deepest channel, where it has more than one, to the point where it strikes the southern boundary of New Mexico; thence, westwardly, along the whole southern boundary of New Mexico (which runs north of the town called *Paso*) to its western termination; thence, northward, along the western line of New Mexico until it intersects the first branch of the River Gila, (or if it should not intersect any branch of that river, then to the point on the said line nearest to such branch, and thence in a direct line to the same;) thence down the middle of the said branch and of the said river, until it empties into the Rio Colorado; thence, across the Rio Colorado, following the division line between Upper and Lower California to the Pacific Ocean.

The southern and western limits of New Mexico mentioned in this article, are those laid down in the map entitled "*Map of the United Mexican States, as organized and defined by various Acts of the Congress of the said Republic, and constructed according to the best authorities. Revised Edition. Published at New-York, in 1847, by J. Disturnell,*" of which map a copy is added to this treaty, bearing the signatures and seals of the undersigned plenipotentiaries. And, in order to preclude all difficulty in tracing upon the ground the limit separating Upper from Lower Califor-

nia, it is agreed that the said limit shall consist of a straight line drawn from the middle of the Rio Gila, where it unites with the Colorado, to a point on the coast of the Pacific Ocean distant one marine league due south of the southernmost point of the port of San Diego, according to the plan of the said port made in the year 1782, by Don Juan Pantoja, second sailing master of the Spanish fleet, and published at Madrid in the year 1802, in the atlas to the voyage of the schooners *Sutil* and *Mexicana*, of which plan a copy is hereunto added, signed and sealed by the respective plenipotentiaries.

In order to designate the boundary line with due precision, upon authoritative maps, and to establish upon the ground landmarks which shall show the limits of both republics, as described in the present article, the two Governments shall each appoint a Commissioner and a Surveyor, who, before the expiration of one year from the date of the exchange of ratifications of this Treaty, shall meet at the port of San Diego, and proceed to run and mark the boundary in its whole course to the mouth of the Rio Bravo del Norte. They shall keep journals, and make out plans of their operations; and the result agreed upon by them shall be deemed a part of this treaty, and shall have the same force as if it was inserted therein. The two governments will amicably agree regarding what may be necessary for these persons, and also as to their respective escorts, should such be necessary.

The boundary line established by this article shall be religiously respected by each of the two republics, and no change shall ever be made therein, except by the express and free consent of both nations, lawfully given by the General Government of each, in conformity with its own Constitution.

ART. VI.—The vessels and citizens of the United States shall, in all time, have a free and uninterrupted passage by the Gulf of California, and by the river Colorado below its confluence with the Gila, to and from their possessions situated north of the boundary line defined in the preceding article; it being understood that this passage is to be by navigating the Gulf of California and the river Colorado, and not by land, without the express consent of the Mexican Government.

If, by the examinations which may be made, it should be ascertained to be practicable and advantageous to construct a road, canal, or railway, which should in whole or in part run upon the River Gila, or upon its right or its left bank, within the space of one marine league from either margin of the river, the Governments of both republics will form an agreement regarding its construction, in order that it may serve equally for the use and advantage of both countries.

ART. VII.—The river Gila, and the part of the Rio Bravo del Norte lying below the southern boundary of New Mexico, being, agreeably to the fifth article, divided in the middle between the two republics, the navigation of the Gila and of the Bravo below the said boundary shall be free and common to the vessels and citizens of both countries; and neither shall, without the consent of the other, construct any work that may impede or interrupt, in whole or in part, the exercise of this right, nor even for the purpose of favoring new methods of navigation. Nor shall any tax, or contribution, under any denomination, or title, be levied upon vessels, or persons navigating the same, or upon merchandise or effects transported thereon, except in the case of landing upon their shores. If, for the purpose of making the said rivers navigable, or for maintaining them in such state, it should be necessary or advantageous to establish any tax or contribution, this shall not be done without the consent of both Governments.

The stipulations contained in the present article shall not impair the territorial rights of either republic within its established limits.

5.—LAW CASE.—DAYS OF GRACE.

A very important case has lately been decided in New Orleans, and the decision will, if confirmed by the Supreme Court of Louisiana, lead to a revolution in the system of drawing drafts upon Northern cities. It seems that a certain banking firm in New Orleans had drawn several bills, payable at sight, upon their correspondent banking establishment in New York, which bills were not paid on presentation, the drawers failing between the time of the drawing of the bills in New Orleans and their arrival in New York. The bills were protested on the first day of presentation and refusal to pay, and returned for recourse against the drawers. The latter, being sued, pleaded in defence that three days of grace were not allowed on the bills, and that the demand and protest should have been made on the third day following the first demand. The holders of the bills replied that, by custom of merchants in New York, no days of grace upon sight bills were given, and it was usual to protest on a first refusal and offered to prove this by the evidence of a number of exchange dealers. To the introduction of evidence to this effect the defendants (drawers of the bills) objected, because the elementary writers and the various judicial dicta held positively that days of grace must be given on sight drafts, and no evidence of custom could be admitted to control or vary positive law. The learned counsel, and the plaintiffs, holders of the bills, were consulted.

6.—THE OLDEN TIME IN NEW-ORLEANS AND YELLOW FEVER.

Our friend Maunsel White, who has made a part of New-Orleans, and in many respects *magna pars*, for a longer period than the American history of the city extends, favors us occasionally with some most interesting reminiscences of the "olden time." We published last year his descent of the river in a flat boat in 1801, and the incidents of that "wild and perilous adventure," which might have deterred a stouter spirit. There is a world of romance in the history of *those days*, but it has all passed from ours, and has been gone ever since, in an unhappy hour. Fulton dreamed of the steamboat, and sent it puffing and blowing over our waters. We can fancy the keen interest of the boatman, the anxious and inquiring passengers, the busy preparations, and the thousand hair breadth 'scapes of the voyage then:

"In dreams *they* fearful precipices tread,
Or shipwreck'd, labor to some distant shore:
Or in dark churches walk among the dead—
They wake with horror and dare sleep no more."

However, we have a sketch to present the reader, showing how the great commercial Tyre, with her merchant fleets traversing every ocean upon earth, looked in her "swaddling clothes," creeping about on hands and knees, lisping English, fifty years ago or thereabouts; for to this deponent's memory "runneth not counter." The cobwebs of half a century hang heavily here. We seem to have reached a dim antiquity indeed, and wonder whether Homer or Agamemnon were not contemporary. In good sooth, in running back thus to those fabulous epochas, our friend looms up in fancy as a very Methuselah! But the frosts of all this period have fallen lightly; or he has found, (perhaps in Plaquemines,) that *perennial* spring, sought so vainly and despairingly in Florida, by the men of yore.

However, our friend is scarcely yet a *sexagenarian*, and has much still to do in his day and generation, and seems little disposed to enjoy altogether the *otium cum dignitate* of country life and hospitalities. We find him in the councils of the State at all times ready to serve as he was to defend her in the days of Hickory Packingham. We hear of his deeds of practical good daily. His labors in behalf of the University of the State have been unremitting and important. We are familiar with his valuable donation for the establishment of a branch of *Commercial Instruction and Political Economy*. These things he will not forgive us for mentioning; and for them and divers others of a like complexion, there will most undoubtedly have to be a retribution hereafter. "Strike, but hear me," at least!

J. D. B. DE BOW, Esq.

SIR,—The morning was calm and bright. A cloudless sun poured down its rays, and the waters of the Mississippi were smooth and still, except when slightly agitated by the ripple made by the stroke of our oars. We landed our fleet of flat boats a little above Gravier, and within ten steps of Tchapitoulas streets, at 10 o'clock in the morning on the 1st of August, 1801, after a *passage* of 60 days from Louisville in Kentucky. The writer, then a mere lad, thought New-Orleans to be a very queer looking place, and was astonished at the jargon of strange tongues. The city at that time was in the hands of the Spaniards, and Don Manuel Salcedo Governor. It was a fortified town. There was a moat or ditch cut around it, and an embankment with palisades and several small redoubts placed at convenient angles. These works were in a state of decay at that time, and were of no defence to the city. They ran from the river where Canal street now is, back to Rampart street, thence down to Esplanade street, and from Esplanade to the river, below where the mint now stands. There were three gates, through which people passed from 6 o'clock in the morning until 9 o'clock at night, when they were shut. At each gate was placed a sentry-box with a corporal's guard. In

those days of Spanish rule a corporal was an important man, and marched before the Governor, when he took his evening's walk on the levee, to clear the way should any one dare approach him, without a low bow, or without leaving a wide birth. The free and easy Kentuckians were particularly obnoxious, as they could not comprehend why a mere man in the shape of a Governor should be any better than themselves, and looked with astonishment at the deference paid by the Spaniards to such a decrepid old fellow as Governor Salcedo then was.

The day after our arrival a case or two of yellow fever was reported in the city, and we hired a house in the Faubourg St. Mary, in Poydrass-street, between Magazine and Tchapitoulas streets, the only house at that time in that square except one. This place was then considered in the country, and beyond the limits of yellow fever! It was a low, one story building, with four rooms in the body and two galleries. While the family with whom I resided were arranging this residence, I was occupied unloading the boats then laying at the levee in front of Tchapitoulas street. Our cargo was rolled out and across that street into the stores of Mr. Lylle Jaspie, who then lived at the corner of Gravier street, fronting the river. On the other side of Gravier street lived the captain of the port, in a wooden frame building. On the corner of Common street there stood a small sailors boarding-house, and between that and the gate or ramparts of the city there was no building of any kind, but only an open piece of ground, extending from the river to the woods, at that time not cleared away beyond where the State-house now stands. All that space of ground between Common, Poydrass, Magazine, and Carondelet streets was used for vegetable gardens. Where the St. Charles Hotel now stands, and all the buildings between Gravier and Common streets, was old Mr. Percy's cabbage garden!

But I am digressing—I must return. After we got out our cargoes of flour, tobacco and pork, and the hands were paid off, and all our bold Kentuckians had started for their far homes, we began to think of selling out. In the meantime, the yellow fever began to spread, and a gentleman from Kentucky, who came down and lived with us, and who was continually out in the city, took it, but escaped after eight days' illness. Mrs. E. was then taken down, and died in a few days. This event broke up our house-keeping, and Mr. E., with his only child, and the writer, took up our abode in the city at Madam Chabbot's, a house as well known at that period as is the St. Charles now. The fever continued, and several were taken to their long homes from this house. My room was opposite to what was called the Hospital Room, out of which I saw a fellow-boarder taken the day before. Alas! there was no help for it, but to take my chance. On Monday night, after about one week's residence here, I found myself sure enough "a case," and in the morning, not having made my appearance at breakfast, a servant, dispatched to my room, told the story of my fate. Doctor Flood was sent for; he came, looked at my tongue, felt of my pulse, gave me some medicine and left me. In the meantime, in came Nanny, a great stout, strapping Negro woman, who wrapped me up in a sheet, took me up in her arms as one might take a baby, and carried me off *nonens volens* to the hospital-room, where she placed me in a bed, occupied, perhaps, before, by hundreds who had died. I became very sick. The medicine had its effect, and Nanny was very attentive. Wednesday passed with one other *dose*—and on Thursday morning, Madam Chabbot, a good hearted lady, and by birth an Irish woman, came to see me. I was dozing away. She lifted up the mosquito net, and the room being dark, took a long, steadfast look at me, pursed up her mouth, shook her head, and departed. I remember that look to this day; but I said to myself, somewhat out of humor, "I am a better fellow yet than you think for, old woman—zounds!" and turned myself in a hurry in the bed. In a few minutes in came Nanny, bringing something on her shoulders very much in my fancy like a coffin. I exclaimed involuntarily, "What now?" The energy with which I spoke, roused the old woman, and she came quickly to the bed-side, drew up the net, and looked at me in seeming surprise. "What's the idea, Nanny," said I; "are you about to bury me alive?" "No," said she, "don't you see it is nothing but a bathing-tub!" suspecting at once that I had mistaken it for a coffin. "Ah! well," said I, somewhat relieved, I must confess, by the announcement. "Where is the Doctor?" "He is coming, and will be here before I get the water ready. Doctor Deluge soon made his appearance, and ordered Nanny to place me in the tub. No sooner said than done; for in Nanny's arms there was no use in kicking, and down she set me in the tub, with a wench as stout as herself on each side, with a large bucket of cold water in their hands. On they poured it, unsparingly, bucket after

bucket. It seemed as if the very Mississippi were pouring over me. The shock was terrible, but I had no time for reflection. I was quickly taken out, wrapped in a dry blanket, and placed on a table, like a dead man. All now commenced rubbing with dry towels, with all their might and main. They then put me into bed, on a new well-aired mattress and clean sheets, and covered me over with blankets, until I thought I should have been suffocated. The doctor left without uttering an other word. I begged Nanny to take off some of the blankets, telling her I was better, and did not wish to smother. She indulged me in this very natural wish the moment she found my skin warm. I began very soon to perspire freely, and finally fell asleep, and did not wake until late on the morning of the next day, (Friday;) Nanny was near me, and with a smile on her grim countenance, asked how I felt. "Hungry!" said I, fiercely, "you imp of darkness." The good Madam Chabbot, heaven rest her, was soon at my bed-side, took me by the hand, and seemed happy to think I was safe. "But don't be imprudent," she charged me. The next morning, Saturday, I was up, rather weak, to be sure, but still cured of yellow fever. Thanks to God, a good constitution, the Doctor and Nanny, etc.*

I am your obedient servant,

MAUNSEL WHITE.

7.—THE BRITISH REVENUE.

An abstract of the net produce of the Revenue of Great Britain, in the years and quarters ending the 5th of July, 1847 and 1848, showing the increase or decrease thereof.

	Years ending July 5.		Quarters ending July 5.	
	1847.	1848.	1847.	1848.
	£	£	£	£
Customs.....	18,792,348..	17,888,988.....	4,519,119..	4,447,832
Excise.....	12,733,998..	12,263,233.....	3,291,052..	3,473,803
Stamps.....	7,201,797..	6,449,103.....	1,869,464..	1,557,640
Taxes.....	4,325,732..	4,306,703.....	2,075,001..	2,034,133
Property Tax.....	5,491,936..	5,411,253.....	1,036,517..	988,401
Post-Office.....	854,000..	787,000.....	215,000..	136,000
Crown Lands.....	112,000..	71,000.....	—	10,000
Miscellaneous.....	307,621..	230,201.....	7,461..	82,022
Total Ordinary Revenue.....	49,819,432..	47,407,486.....	13,013,614..	12,736,331
China Money.....	227,644..	455,021.....	—	—
Imprest & other monies.....	208,190..	187,408.....	88,632..	88,805
Repayments of Advances.....	804,843..	422,485.....	137,944..	86,813
Total Income.....	51,060,109	48,472,400	13,240,190	12,912,449

8.—POSTAL REFORM.

The law recently passed by Congress, known as the Retaliatory Act, is very vexatious and annoying in its provisions, and has given universal dissatisfaction in this community. The charge upon American letters in England when taken by our steamers, to be sure is too great, but we do not see how we remedy the evil by taxing the letters an equal amount here. The cost of taking letters and papers under the new law from New-Orleans to Liverpool, is as follows:—

	Letters.	Papers.
New-Orleans to New-York.....	\$0 10.....	\$0 3
"Retaliation" tax.....	0 24.....	0 4
Steamer postage.....	0 24.....	0 4
	0 58.....	0 11

These charges are enormous, and cannot but have a most injurious effect upon the now friendly intercourse between the two countries. Upon newspapers, the tax is

* Cold water should never be applied in the last stages of yellow fever, or on a weakly constitution. But I sincerely believe, if applied at the proper moment, it would prove an efficacious remedy. Several were treated in 1801 in the same way, and nearly all recovered.

doubly severe. Thousands who now send a paper across the Atlantic, must now, from motives of economy, abandon the practice. The cost of English papers to American publishers is also increased to an onerous degree. A London daily costs five pence sterling, which gives a yearly

Cost of.....	\$31 20
Postage.....	12 52
Cost for year.....	\$43 72

Few papers in New-York have less than four London dailies, to say nothing of the large number of weeklies, that go to make up an amount equal to the whole subscription list of a country press, which depends upon its city exchanges for news. The whole operation of the retaliatory law is vexatious and unproductive of the least good, and the sooner Congress repeals it the better, for every reading or writing person in the country.

9.—VENEZUELA.—MARACAIBO BLOCKADED.—DECREE.

Art. 1. The port of Maracaibo, and coasts adjacent,* are declared to be in a state of blockade. This blockade will, for the present, be effected by a division of the maritime force, composed of six vessels of war: this number to be hereafter increased.

Art. 2. Vessels of war of friendly or neutral nations are permitted to enter, remain in, and sail from Maracaibo, the government being persuaded that they will not, in any way, assist the conspirators.

Art. 3. The blockading force will prevent the entry of all merchant vessels; and any intending to enter after notice that the blockade exists, shall be detained and adjudicated according to law and international rights. For the notice above alluded to, eight days are fixed for the Island Curacao, and its dependencies; fifteen for the other West India Islands; forty for the United States and Europe, from the date of this decree.†

Art. 4. Vessels coming from distant ports, and which can show that they had no knowledge of the blockade, shall not be in any way molested; they shall not, however, be permitted to enter Maracaibo, but may proceed whithersoever they determine.

Given under my hand, and the seal of the Executive Power, and countersigned by the Secretary of State, of War, and of Marine, in Caracas, 11th May, 1848, 19th year of the law, and 38th of Independence.

(Signed) DIEGO B. URBANEJA.

By order of his Excellency the Vice-President of the Republic, in charge of the Executive Power, the Secretary of State of the Departments, of War, and Marine.
Venezuelan Consulate, 23d June, 1848. FRANCISCO MEJIA.

PUBLISHING BUSINESS.

1. *Orta Undis and other Poems.* By James M. Legaré. Boston: W. D. Ticknor. 1848.

We are indebted to the author for a copy of a neat little volume with this caption. It embraces a collection of those effusions of his pen, which have given him at a very early age, a high reputation in song. Many of the pieces have much merit, and they are all characterised by a true poetic fervor and tenderness. We knew the author in more youthful times; and it was our fortune to share the instructions of a common *alma mater*. He had even then begun to assume position. It rejoices us, after a lapse of several years, to find him still upon the bright road to fame.

From the volume before us, we extract a few verses on the death of *Hugh S. Legaré*, which we have always thought very fine.

* By a minute of the Secretary of State, dated 17th May, 1848, the "coasts adjacent to Maracaibo" comprise all within what is properly called the "Saco de Maracaibo," between Cape San Roman, in the peninsula of Paraguana, and the "Punta de la Espada," in the Peninsula of Goagera.

† By the same minute, these terms of notice are partially extended, viz.: for vessels coming from Europe, to 60 days; from Demerara and the West Indies, (excepting Curacao and its dependencies, St. Thomas and Santa Cruz,) 30 days. During the terms of notice respectively allowed, the Blockading Squadron will notify to all merchant vessels the existence of the Blockade by a minute on the vessel's register, &c.; and only in case of attempting, after such notice, to enter, will vessels be detained.

ON THE DEATH OF A KINSMAN.

I SEE an eagle winging to the sun—
 Who sayeth him nay?
 He glances down from where his wing hath won:
 His heart is stout, his flight has scarce begun—
 Oh hopes of clay!
 Saw he not how upon the cord was lain
 A keen swift shaft;
 How death wrought out in every throbbing vein,
 In every after agony of pain
 His bitter craft!

Like old Demetrius the sun had he
 Beheld so long,
 Now things of earth no longer could he see,
 And in his ear sang Immortality
 A pleasant song.
 Icarus like he fell when warm and near
 The sunshine smiled:
 He rose strong-pinioned in his high career—
 Thy dust remains, thy glorious spirit where
 Minerva's child?

Therefore him Fame had written fair and high
 Upon her scroll,
 Who fell like sudden meteor from the sky—
 Who strenuous to win at last did die
 E'en at the goal.

2. *Index to the Reviews and Periodicals of the day*, by the Brothers in Unity Society of Yale College. New-York: G. P. Putnam. 1848. This volume supplies a valuable place in regard to every library. It is the result of immense labor, but will save infinitely more in the usages to which it may be applied. We have often and often had to search over a hundred musty books to find what at a glance this index gives. We can tell where to put our very finger upon information upon almost every subject of the most valuable kind, which is scattered through the reviews and magazines that have been published in the last fifty years, in Europe and America. The whole number of books indexed in the volume is 560. The present edition being nearly exhausted, a new one will be published, containing in addition, the names of all the authors to articles in the North American, a list of American publications, &c. The price of the work is very low, and all should have it.

3. *The Western Journal, of Agriculture, Manufactures, &c., &c.*, by M. Tarver & T. F. Risk. St. Louis, monthly. June, 1848. With the present number, the first volume of this interesting magazine closes. We have watched its progress with much interest and favor. Established in the heart of the north-west, and embracing all the extensive interests of that prosperous section of the Union, this publication ought to receive a large support. We have always welcomed it to our table for the information it imparts. The original papers are always numerous and the selections good; the senior editor, Mr. Tarver, we have known a long time as a very able writer and thinker. To his enterprize, we wish, with all our heart, "God speed."

4. *Farmers' Library*: John S. Skinner. June, 1848. We have not had time yet to pay our respects to this veteran agricultural editor, who has now become the proprietor of the journal he has raised to so well earned reputation. Mr. Skinner will remove it to Philadelphia and change the name for one he regards more national—"The Plow, the Loom and the Anvil." The title will explain itself. Success to our contemporary in all his efforts to advance and extend American industry.

The Farmers' Library has been printed three years, and six handsomely bound volumes, of 600 pages each, are offered by Mr. Skinner for \$15, or if more than one set be taken, \$12. He should soon run off his supply at these rates.

5. *Bankers' Magazine*: Baltimore. 1848. The second volume of this work is now completed, and as the best index to its merits we furnish the table of contents.

I. Bank Statistics of each State: showing the condition of the whole; with the location, name and capital, and names of President and Cashier of every Bank in the U. S., arranged in States and in Towns alphabetically.

II. Finances, Debts, Revenues, and Expenditures of every State in the Union, and of the U. S.

III. Important Law Decisions in the English and American Courts respecting Banks, Bankers, Bills of Exchange, Brokers, Promissory Notes, Stocks, Corporations, Bank Notes and Commercial Law.

IV. Essays upon Currency, Banking, Finance, &c.

V. Biography of Distinguished Bankers, Girard, Rothschild, Ricardo, Coutts and others.

VI. Historical and Statistical Notices of the Currency of Hamburg, Russia, France, Great Britain; of the Bank of England, Bank of France, &c.

VII. Railroad Maps of Great Britain and the United States, showing the location of every Railroad route in Great Britain, and proposed routes from Baltimore and Boston to St. Louis.

Published Monthly, at three dollars per annum.

EDITOR'S NOTE.

In this and the last number, we have used a smaller type and thinner paper, so that the work appears smaller than it is. As the hot weather passes away in New-Orleans, and men can work again with spirit, the reader may rely upon our accustomed enlargement of the Review. We have always given more than we bargained for, when the volumes are considered.

Apropos of volumes. We have now five, handsomely bound, and should be much pleased to receive orders for them. Our number is limited, and as the reprint required an immense outlay, we trust the friends of the work will interest themselves in getting orders for us.

We again beg most earnestly for remittances from all who are indebted to the Review.

Many of our advertisements are again left out. If the parties will bear with us, they shall have their full complement of months.